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WATERSHED PROTECTION HANDBOOK

Policies, Procedures and Instructions
Relating to the Program
Authorized by the Watershed
Protection and Flood Prevention Act
(P. L. 566 - 83d Cong., 68 Stat. 666),
As Amended by the Act of August 7, 1956
(P. L. 1018, 84th Cong., 70 Stat. 1088)



Approved by the Administrator, Soil Conservation Service, June 24, 1957

Soil Conservation Service
United States Department of Agriculture
July 1957

WATERSHED PROTECTION HANDBOOK

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WATERSHED PROTECTION HANDBOOK

SECTION 1

PROGRAM OBJECTIVES AND REQUIREMENTS

I. OBJECTIVES

The Watershed Protection and Flood Prevention Act authorizes the Secretary of Agriculture to cooperate with local organizations, (including the States or any political subdivision thereof having authority under State law to carry out, maintain, and operate works of improvement) in planning and carrying out works of improvement for flood prevention or for the conservation, development, utilization, and disposal of water in watershed or subwatershed areas.

The Act provides additional authority to the Secretary of Agriculture to assist local organizations in carrying out a program for the development, use, and conservation of the Nation's soil and water resources. It provides for technical, financial, and credit assistance by the Department to landowners and operators and other people living in small watersheds. It provides also for needed additional treatment and protection of Federally owned lands within such watersheds. Moreover, it provides a basis for coordinating such locally undertaken upstream watershed improvements with water-resource development projects on major rivers of the Nation.

The Act provides for a new kind of project-type approach to soil and water resource development, use, and conservation. Unlike older project-type Federal public works programs in this field it requires that full initiative and maximum responsibility for any undertaking be exercised by local people through their local organizations. It encourages the close cooperation and assistance of State agencies. The provisions of the Act emphasize the partnership of local, State and Federal agencies in natural resource development, use, and conservation.

It is unlike other national conservation programs for its project-type approach requires the development of a physically and economically sound plan of improvements scheduled for execution over a definite period of years. Firm commitments are required from local organizations or the States for sharing the costs of installation and assuming the operation and maintenance (with certain exceptions on Federal land) and for meeting other requirements as a condition for Federal financial assistance in carrying out the improvements.

The Congress has made it clear that the additional authority provided under the Act should be used to "supplement both our present agricultural soil and water conservation programs and our programs for development and

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flood protection of major river valleys. It will bridge the gap between these two types of programs and greatly enhance the ultimate benefits of both." (House of Representatives Report No. 1140, 83d Cong., 2d Sess.)

"Federal help under the Act is available only to assist local organizations to plan and install needed water-management and flood-prevention measures that cannot feasibly be installed under other current Federal conservation programs." (Committee Print, H.R. Committee on Agriculture, August 25, 1954, 83d Cong., 2d Sess. Watershed Conservation and Flood Prevention, Answer to Question 4.)

II. REQUIREMENTS

Requirements of pertinent provisions of law, regulations, and policies applicable specifically to carrying out a program under the Watershed Protection and Flood Prevention Act are summarized below. These requirements are taken from the Act itself, (Handbook sec. 24); the President's rules and regulations, Executive Order 10584 (Handbook sec. 24); the policy of the Secretary of Agriculture (Handbook sec. 24); and USDA Regulations, Title 9 (Handbook sec. 24).

A. Requirements Applying to Local Organization(s)

Local organization(s) must:

1. Be qualified to apply for assistance (Act. sec. 2; Handbook sec. 3).
2. Submit the application to an authorized State agency or the Governor (Act sec. 3; Handbook sec. 3).
3. Agree on the plan for works of improvements (Act sec. 5; Handbook sec. 4).
4. Assume a share of the installation cost of structural measures for agricultural water management equal to the ratio of direct identifiable benefits to total benefits accruing from such measures and all of the cost, including engineering services, of structural measures for purposes other than flood prevention and agricultural water management. (Act sec. 4; Handbook sec. 7).
5. Construct or contract for the construction of all works of improvement on non-Federal lands (Act sec. 5; Handbook sec. 13).
6. Obtain required agreements to carry out "recommended soil conservation measures and proper farm plans" (Act sec. 4; Handbook sec. 2).

7. Provide documentary evidence of acquisition of necessary land, easements, and rights-of-way (Act sec. 4; Handbook sec. 15).

8. Acquire or provide evidence that landowners or water users have acquired necessary water rights in accordance with applicable State laws (Act sec. 4; Handbook sec. 14).

9. Provide assurance that structural works of improvement will be installed, operated, and maintained in accordance with applicable State laws (Secy. policy; Handbook sec. 14).

10. Provide documentary evidence of adequate arrangements to operate and maintain improvements (Act sec. 4; Handbook sec. 19).

11. Inform landowners and others participating in planning and carrying out the works of improvement of their responsibilities for compliance with applicable State and Federal laws (Secy. policy; Handbook sec. 3).

12. Employ or retain professional engineers for works of improvement for municipal or industrial water supply or other non-agricultural water management purposes. (Act sec. 5; Handbook sec. 2).

13. Submit a satisfactory plan of repayment for any loan or advancement obtained under the provisions of section 8 of the Act (Act sec. 4; Secy. policy).

B. Requirements Applying to States

The States, through an authorized State agency or the Governor, must be provided an opportunity to accept the following responsibilities:

1. Review and approve, disapprove, or not disapprove within 45 days, applications from local organizations (Act sec. 3; Handbook sec. 3).

2. Recommend priorities of watersheds for assistance within the State (Handbook sec. 3).

3. Review and comment on plans for works of improvement (Exec. Order 10584; Handbook sec. 4).

4. Participate in planning and financing improvements (Secy. policy; Handbook sec. 16).

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C. Requirements Applying to Federal Agencies Assisting Local Organizations

1. The Soil Conservation Service, exercising the responsibilities assigned by the Secretary of Agriculture, with the assistance of the Forest Service as provided for in Title 9, USDA Regulations, under such criteria, standards, objectives, and procedures as are provided for in this handbook, will:

a. Approve or disapprove applications for Federal assistance in preparing plans for works of improvement and assign priorities for such assistance, taking into account recommendations of the State for priority within the State (Exec. Order 10584; Secy. policy; Act sec. 2; Handbook sec. 3).

b. In cooperation with local organization(s) and Federal land administering agencies, conduct necessary surveys and investigations and prepare plans for works of improvement to cover, where possible, all lands within a watershed regardless of ownership (Act sec. 3; Handbook sec. 4).

c. Prepare plans and estimates required for adequate engineering evaluation (Act sec. 3; Handbook sec. 4).

d. Make allocations of costs to the various purposes, show basis for allocations, and determine whether benefits exceed costs. (Act sec. 3; Handbook sec. 6).

e. Cooperate and enter into agreements with local organization(s) (including the States) to furnish financial and other assistance (Act sec. 3; Handbook sec. 10 and 13).

f. Assist local organization(s) in developing designs and specifications and in preparing contracts for installing works of improvement by providing the necessary engineering services or reimbursing the local organization(s) for such services used for works of improvement for flood prevention, or for agricultural water management when justified by the accrual of benefits to other than direct identifiable beneficiaries (Act sec. 4; Handbook sec. 7 and 13).

g. Participate in the installation of works of improvement (Act sec. 5; Handbook sec. 10 and 13).

h. Secure the cooperation of other Federal agencies in carrying out the plan for works of improvement (Act sec. 3; Handbook sec. 11 and 18).

i. Cooperate with other Federal agencies, States, and local agencies in making investigations and surveys of the watersheds of rivers and other waterways as needed for program coordination (Act sec. 6; Handbook sec.8).

j. Hold public hearings when such action will further the purposes of the Act (Exec. Order 10584).

k. Bear all of the construction cost of structural measures allocated to flood prevention (Act sec. 4; Handbook sec. 7).

2. The Forest Service and other Federal agencies will on lands for which they have management responsibility:

a. Determine watershed conditions, works of improvement needed and justified, manner of installing, operating, and maintaining works of improvement and evaluate such works of improvement (Act sec. 5; Exec. Order 10584; Handbook sec. 11).

b. Require a sharing by non-Federal interests in the cost allocable to non-Federal land for the installation, operation, and maintenance of works of improvement other than land-treatment measures (Secy. policy; Handbook sec. 7).

c. Install land-treatment measures on Federal lands as provided for in approved work plans (Secy. policy; Handbook sec. 11).

3. The Farmers Home Administration, exercising the responsibilities assigned by the Secretary of Agriculture, will administer the loan or advancement provisions of Sec. 8 and will:

a. Approve or disapprove all applications for loans or advancements.

b. Establish standards and criteria for repayment plans.

c. Make loans or advancements in accordance with approved applications and repayment plans.

d. Collect payments from local organizations in accordance with approved repayment plans.

e. Announce at the beginning of each fiscal year the interest rates applicable to loans or advancements.

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4. As a condition to providing assistance in developing a plan for works of improvement, and submitting a plan providing for Federal financial assistance, the Soil Conservation Service and cooperating Federal agencies must observe the following:

a. The plan can include only those works of improvement producing direct measurable benefits in (1) flood prevention, or (2) the conservation, development, utilization, and disposal of water (Act sec. 2; Handbook sec. 2).

b. The plan must cover a watershed or subwatershed area of not more than 250,000 acres, except that where sponsoring local organization(s) so desire, a number of subwatershed areas, when they are component parts of a larger watershed, may be planned together. However, no single plan will be submitted for a watershed or subwatershed area exceeding 250,000 acres (Act sec. 2; Handbook sec. 2).

c. No structure providing more than 5,000 acre-feet of floodwater detention capacity or more than 25,000 acre-feet of total capacity may be included in the plan (Act sec. 2; Handbook sec. 2).

d. Any plan which contains a structure providing more than 2,500 acre-feet but not exceeding 4,000 acre-feet of total capacity must be approved by resolutions of the Committee on Agriculture and Forestry of the Senate and the Committee on Agriculture of the House of Representatives. Any plan which contains a structure exceeding 4,000 acre-feet of total capacity must be approved by resolutions of the Committees on Public Works of the Senate and the House of Representatives. Any plan involving an estimated Federal contribution to construction costs exceeding \$250,000 must also be approved by resolutions of the appropriate committees of the Senate and the House of Representatives (Act sec. 2; Handbook sec. 2).

e. No part of the installation cost may be provided from appropriations made under authority of the Act for any capacity provided in structures for purposes other than flood prevention and agricultural water management. (Act sec. 4(2); Handbook sec. 7).

f. Federal assistance for land-treatment measures may not exceed the rate of assistance for similar practices under existing national programs (Act sec. 3). Department policy provides that only technical assistance will be furnished for installation of land-treatment measures on lands not in Federal ownership from appropriations made under authority of the Act except that for the following measures, when their benefits are determined to be primarily but not exclusively for flood prevention and in excess of their costs, the

installation costs may be paid for in part out of appropriations made under authority of the Act and, in accordance with sec. 3(4) of the Act, at rates not to exceed those for similar practices under existing national programs: (1) fire prevention and control, (2) critical area stabilization primarily by vegetative practices, (3) minor gully and channel stabilization measures and (4) special-purpose terraces and other on-farm measures used in lieu of downstream flood prevention structures (Secy. policy; Handbook sec. 7).

g. The authority provided under the Act will be used in lieu of any other legislative authorities available to the Department to furnish assistance for planning and carrying out watershed projects in which cost-sharing under the authority of the Act is proposed (Act sec. 5; Handbook sec. 2). (Watershed planning assistance may be provided under other authorities, such as Public Law 46, if landowners and operators or local organizations do not request Federal cost-sharing in installation of works of improvement from appropriations made for watershed-protection or flood-prevention programs).

h. The works of improvement proposed in the plan must constitute needed and harmonious elements in the comprehensive development of the river subbasin or river basin involved (Exec. Order 10584; Handbook sec. 8).

i. Recognition must be given to works of improvement in place and in operation, or soon to be brought into operation with a view to (1) properly reflecting the respective contributions of upstream and downstream improvements, (2) providing the best use and control of water resources at minimum cost, (3) giving preference to the alternative or combination of upstream and downstream improvements least costly to the Federal Government, and (4) eliminating duplication of benefits where they are produced jointly by an upstream and downstream system of improvements (Exec. Order 10584; Handbook sec. 8).

j. Determine that all planned improvements are to be carried out, operated, and maintained in accordance with applicable State laws (Secy. policy; Handbook sec. 14).

k. Sponsoring local organization(s), Governors, and concerned Federal agencies must be notified of approvals and disapprovals of applications for assistance. Governors and concerned Federal agencies must also be provided with appropriate information regarding the scope, nature, status, and results of such surveys or investigation, and furnished plans for review and comment prior to their transmission to the Congress through the President where such transmission is required (Exec. Order 10584; Handbook sec. 3 and 4).

1. Conform with requirements for review and/or approval of applications for assistance and plans for works of improvements (Handbook sec. 3 and 4).

m. Arrangements must be made for assistance from principal basic-data collecting agencies in providing information needed in planning and carrying out works of improvement (Exec. Order 10584; Handbook sec. 9).

n. When it becomes known, during the development of the work plan for a particular watershed, that a local organization may need or desire a loan from the Farmers Home Administration, the Soil Conservation Service will advise the Farmers Home Administration so that it may give preliminary consideration to the loan (Handbook sec. 4).

SECTION 2

CRITERIA FOR PROVIDING ASSISTANCE

I. UTILIZATION OF THE AUTHORITY OF THE ACT

Significant watershed problems must exist which cannot be solved adequately or in a timely manner with assistance available under other Federal programs but which can be solved or alleviated by assistance authorized under the Act. Significant watershed problems are considered to be those which affect and require action for their solution by groups of landowners, communities, and the general public through cooperation of local, State and Federal Governments. They are problems which would still exist in measurable degree after individual landowners and operators had achieved use of their land within its capabilities and treatment according to its need within the limits of private and public resources available to them. Significant watershed problems include, but are not limited to, those requiring installation of measures such as floodwater retarding structures, levees, floodways, irrigation and drainage improvements and other water management measures; and those for stabilization of major gullies, stream-channel improvement, road and streambank stabilization, groundwater recharge, eradication of useless water-consuming vegetation, intensified fire protection, and revegetation of critical runoff and sediment-source areas.

Significant problems of this kind do not exist in all small watersheds. The need may be only for land treatment by such measures as standard terracing, crop rotation, pasture improvement, forest and woodland management, etc., the principal benefits of which accrue to the land on which such treatments are applied.

Other Federal and State programs provide for educational, technical, financial and credit assistance to landowners and operators of private lands for making such improvements. Likewise, other Federal programs provide for needed treatment and protection of this type on Federally-owned lands. Therefore, the authority under the Act will be used to provide assistance in planning a watershed only where there are significant needs for works of improvement other than the kinds which individual landowners or even small groups of landowners could be expected to accomplish with the types of help available under other programs.

The Service will limit financial assistance on non-Federal lands to those measures which (a) are primarily for flood prevention, drainage, irrigation, or other water management, (b) produce substantial benefits to groups of landowners, to communities and to the general public, and

(c) cannot generally be installed by individual landowners or small groups of landowners with the aid of available ACP and other cost-sharing.

The dominant problem in some small watersheds may require measures for its solution that are not authorized under the Act. For example, the problem may be prevention of water pollution by treatment of sewage or industrial wastes. The need may be for a dam having an impounding capacity of more than 25,000 acre-feet. No assistance can be given under the authority of the Act in the solution of such problems, but the Soil Conservation Service may suggest other available sources of assistance in the solution of such problems.

II. UTILIZATION OF OTHER RELATED AUTHORITIES

A. In carrying out its responsibilities under the Act, the Service will use and encourage other agencies to use, to the fullest possible extent, resources available from appropriations made under authority of other Federal and State legislation to further development of watershed projects. This may include continuance and, where essential, increases in the following kinds of assistance within the watershed project area:

1. Educational assistance from the cooperative Federal-State Extension Service.
2. Technical assistance by the Soil Conservation Service under its National program of assistance to soil conservation districts.
3. ACP and Soil Bank financial assistance.
4. FHA credit assistance under Public Law 597, 83d Congress.
5. Farm forestry assistance provided under the Cooperative Forest Management Act.
6. Protection of forest areas from fire, insects, and disease under cooperative programs authorized by the Clarke-McNary Act, Forest Pest Control Act, and White Pine Blister Rust Protection Act.
7. Improvement of fish and wildlife resources through the cooperative programs authorized under the Pittman-Robertson and Dingell-Johnson Acts.
8. Protection and treatment of Federally owned lands by land-managing agencies.
9. Collection of basic data by research and basic-data collecting agencies in the Departments of Agriculture, Interior and Commerce.
10. State assistance programs.

The Service will continue to emphasize the advantages of the watershed approach, where applicable, to soil and water conservation programs of soil conservation districts. Where districts so desire, and have provided for it in their plan of operations, the Service will continue to assist them in watershed planning under its National program of assistance to districts.

III. REQUIRED LAND TREATMENT

A. General Requirements

The Service will emphasize proper land use and treatment as the most fundamental requirement of a successful watershed project. A high degree of application of needed land-treatment measures will be required prior to furnishing financial assistance in installation of structures.

The Act requires that local organizations shall "obtain agreements to carry out recommended soil conservation measures and proper farm plans from owners of not less than 50 per centum of the lands situated in the drainage area above each retention reservoir to be installed with Federal assistance" (sec. 4(5)). A "Proper Farm Plan" for non-Federal land shall mean a basic farm and ranch plan which provides for:

1. Use of land within its capabilities.
2. Treatment, within practical limits, according to the chosen use to prevent further deterioration of soil and water resources.
3. The decisions of the cooperator to be recorded.
4. Application of the three preceding provisions to all land in the farm or ranch unit.

Plans for Federal and other public lands will be comparable in scope and detail to basic plans for non-Federal lands. As used hereinafter, the term "Basic Plan" is applicable to both Federal and non-Federal lands.

B. Specific Requirements

Prior to providing financial assistance for the construction of structures, the above provisions of the Act and the following additional requirements must be satisfied:

1. Basic plans will be prepared covering those lands in the watershed on which the prior installation of land treatment measures is specified in Paragraph III B 2.

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2. Not less than 75 percent of the effective land treatment measures must be installed, or their installation commenced, on those sediment source areas which, if uncontrolled, would require a material increase in the cost of construction, operation, or maintenance of structural works of improvement for flood prevention, irrigation, drainage and other water management proposed for installation under the Act.

3. The Service will determine that a high percentage of the landowners and operators of the land to be benefited by the installation of structural works of improvement for drainage, irrigation or other water management will agree with the local organization to the development of basic plans.

IV. USE OF FUNDS FOR LAND TREATMENT MEASURES

A. In a watershed project funds appropriated under the authority of the Act may be used to supplement the normal level of funds available under other going programs for the planning and application of land treatment measures. For land treatment measures for watershed protection such funds may not exceed the flood prevention and water management benefits of such measures capitalized in perpetuity at the long-term borrowing rate of the Federal Government as determined for administering the loan or advancement provision of Section 8 of the Act.

Federal assistance for land treatment measures on non-Federal land is limited to technical assistance except for economically justified land treatment measures in the following categories which are installed primarily, but not exclusively, for flood prevention: (1) fire prevention and control, (2) critical area stabilization primarily by vegetative practices, (3) minor gully and channel stabilization measures, and (4) special purpose terraces and other on-farm measures used in lieu of downstream flood prevention structures.

On Federal land, the entire cost of land treatment measures subject to the above limitations may be borne by the Federal Government.

In order to qualify for inclusion in a watershed work plan, land treatment measures must meet one of the following criteria:

1. Are effective in reducing serious sedimentation hazards in order to provide for the satisfactory design, operation and maintenance of structural works of improvement proposed for installation under the Act.

2. Have measurable physical effects in preventing floodwater, erosion and sediment damages or in producing water management benefits.

3. Are necessary to assure the realization of the benefits used in the justification of structural measures proposed for installation under the Act.

V. SIZES AND TYPES OF WATERSHEDS

The Act provides that works of improvement must be planned and carried out "in watershed or subwatershed areas not exceeding two hundred and fifty thousand acres". However, "a number of such sub-watersheds, when they are component parts of a larger watershed, may be planned together when the local sponsoring organizations so desire."

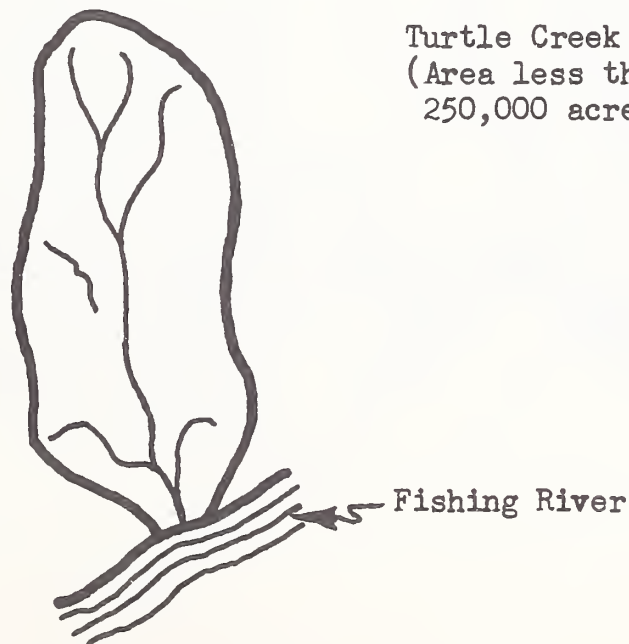
The Service will not approve single plans for works of improvement on areas exceeding 250,000 acres even though several areas, each less than this size, may be planned jointly at the request of local organizations.

A watershed area comprises all land and water within the confines of a drainage divide.

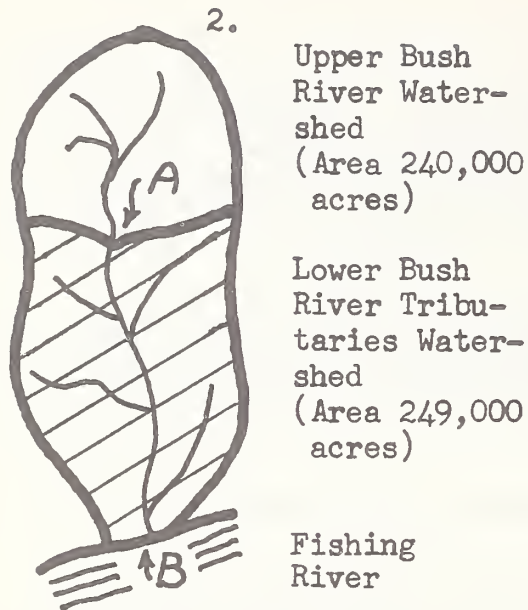
A watershed area may comprise the land and water of two or more minor drainageways, not tributaries to each other, but severally tributary to a stream, artificial waterway, lake, bay or other tidal area. A watershed area may exclude areas from which water is brought into it by diversion if these sources of water have no significant effect on the flood prevention and water management problems of the watershed area. The watershed area must necessarily include, however, all directly tributary drainageways and lands from which water and sediment could reach and adversely affect any water management facility such as an irrigation or drainage canal, floodway, or floodwater retarding structure included in the plan.

Types of watersheds which are eligible for assistance under the Act are illustrated in the following examples:

1.



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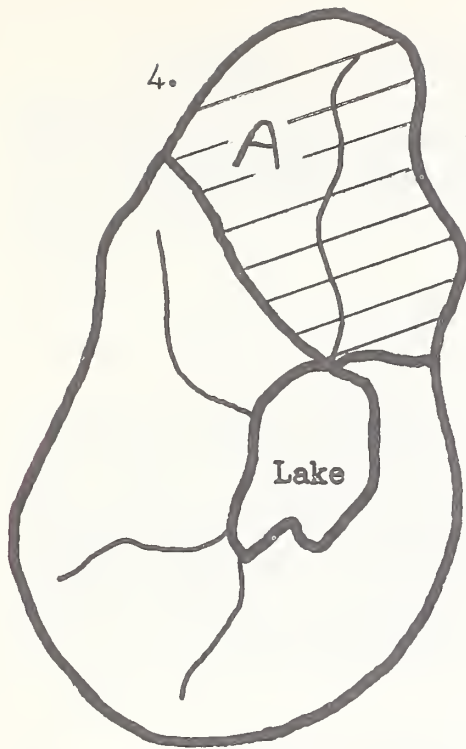
Watershed areas above A and between A and B must both be less than 250,000 acres. Improvements may be planned on the main watercourses below the point of 250,000 acres of drainage provided the area above the locations of such improvements has been planned, is being planned concurrently, or it has been determined that works of improvement are not needed or feasible. However, improvements on the main watercourse will not be installed until works of improvement planned above the point of 250,000 acres of drainage have been installed or it has been determined that works of improvement are not needed or will have an insignificant effect on main stem structures.

(Watershed areas A, B, C, and D are each less than 250,000 acres.)



Entire Stoney River watershed (A + B + C + D) may be planned together if so requested by local organization(s), and each watershed is authorized for planning, but separate applications and work plans are required on each watershed area (A, B, C, and D). Improvements may be planned on the main watercourse below the point of 250,000 acres of drainage provided the area above the locations of such improvements has been planned, is being planned concurrently, or it has been determined that works of improvement are not needed or feasible. However, improvements on the main watercourse will not be installed until the works of improvement planned above the point of 250,000 acres of drainage have been constructed or it has been determined that works of improvement are not needed or will have an insignificant effect on main stem structures.

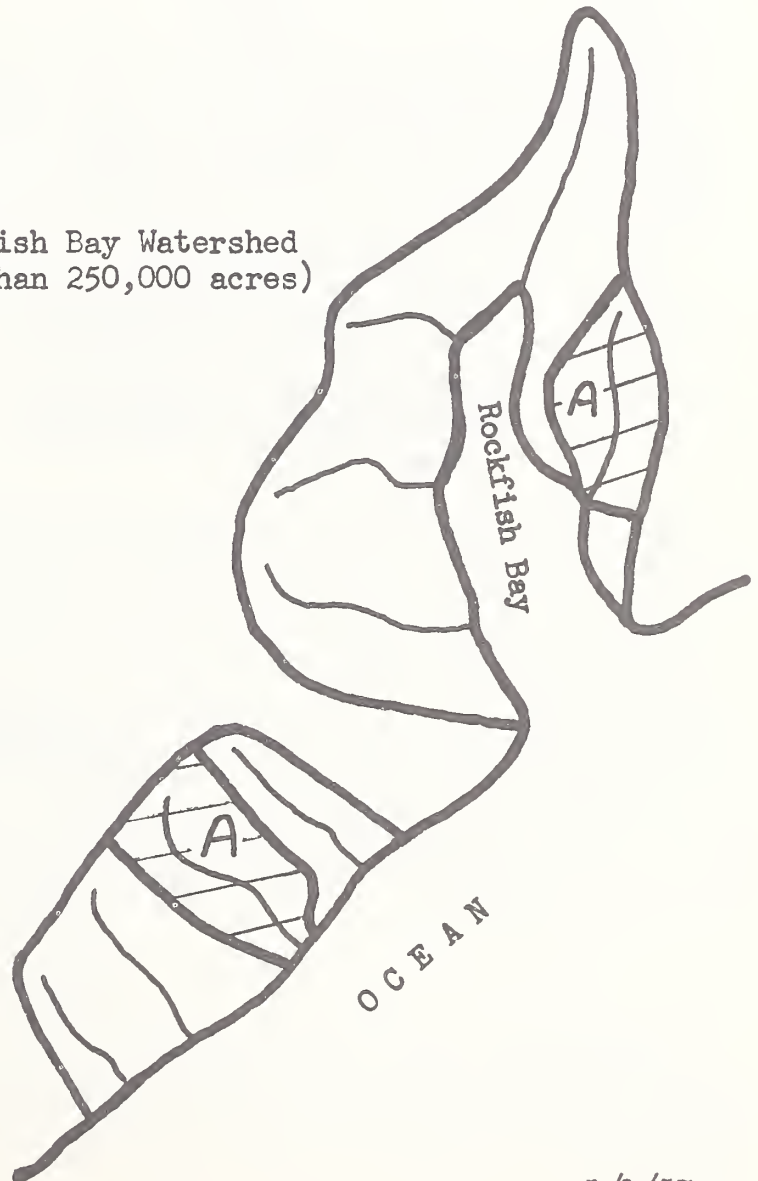
4.



Little Salt Lake Watershed
(Less than 250,000 acres)

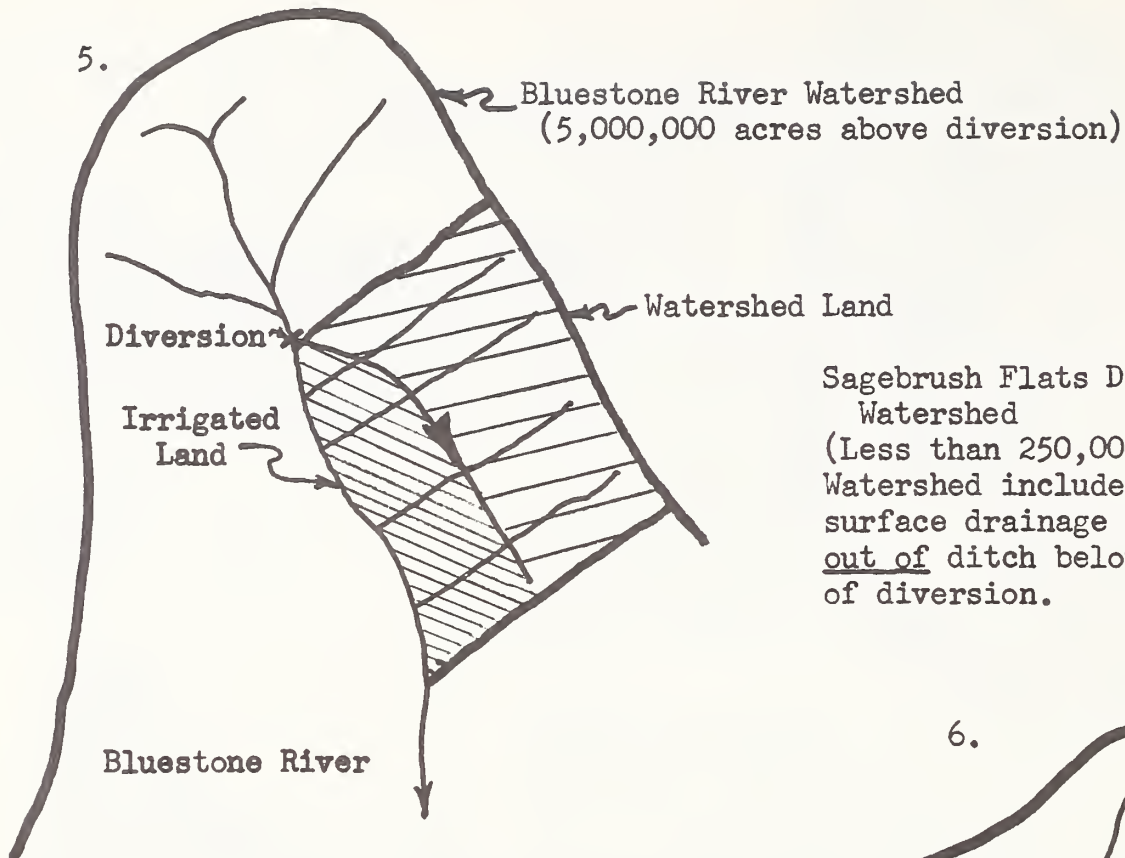
Planning assistance may be provided for entire watersheds or for separate tributaries such as A if so requested. If watershed area is larger than 250,000 acres, treat as in example 3.

Rockfish Bay Watershed
(Less than 250,000 acres)



Sandy Beach
Tributaries
Watershed
(Less than 250,000 acres)

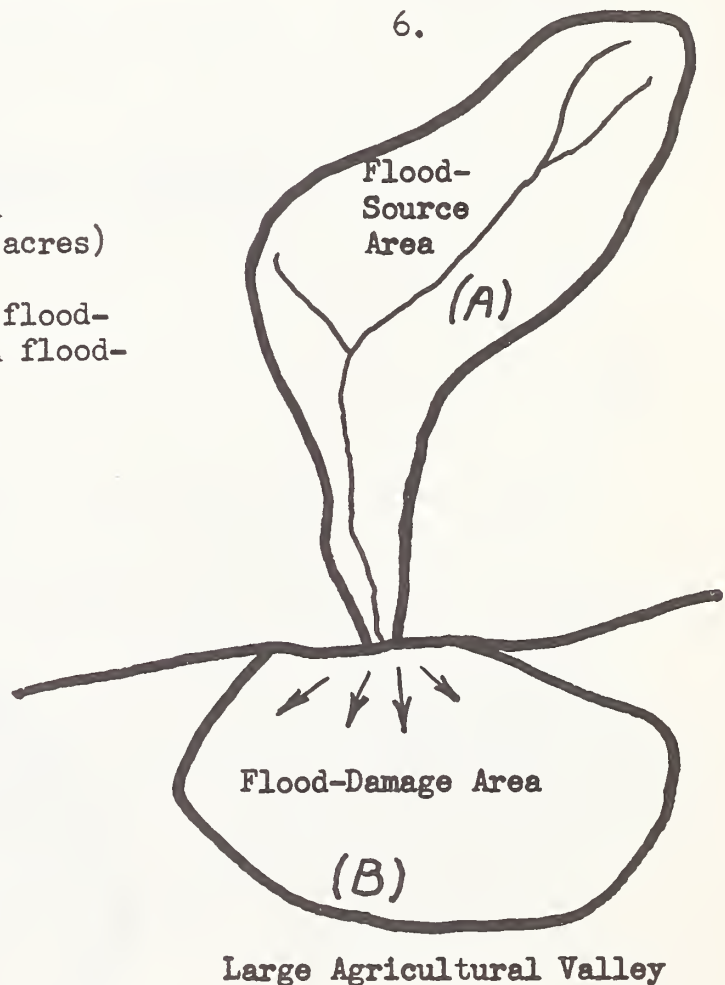
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Sagebrush Flats Ditch
Watershed
(Less than 250,000 acres)
Watershed includes all
surface drainage into or
out of ditch below point
of diversion.

Dry Gulch Watershed
(Less than 250,000 acres)

Watershed includes flood-
source area (A) and flood-
damage area (B).



Although only maximum size limits are prescribed by the Act, it should be recognized that certain fixed costs are inherent in project planning, approval, and installation. As a result, both the "overhead" costs and costs for which cost-sharing is required are larger per unit area for smaller projects than for larger projects, other factors being equal.

VI. WATERSHED PROJECTS SHOULD HAVE MULTIPLE PURPOSES

All watershed projects should have multiple purposes. They will provide for proper land use and treatment in the interest of soil and water conservation as well as other purposes such as flood prevention, irrigation, drainage, municipal water supply, or other phases of water management. Whereas needed land treatment measures, as defined in Item III of this section, must be included in the work plan as a condition to Federal assistance, the project purposes desired by the local organization shall be a controlling factor in planning for other works of improvement.

It is the responsibility of all concerned field officers of the Service to bring to the attention of local and State organizations any possible opportunities for incorporating storage for beneficial uses in structures where this is physically and economically feasible. The increasing need is widely recognized in many parts of the country for storage for municipal and industrial use, supplemental irrigation, recreation, releases to abate pollution and maintain fish, livestock water and other purposes. Multiple use of a reservoir site is not only sound long-range conservation of our limited supply of dam sites, but it also usually provides a substantial savings to both the Government and local organizations over the development of equivalent services in single-purpose structures.

If the local organization(s) desires to proceed with flood prevention improvements without planning justified irrigation or drainage, the work plan may be prepared on this basis. Likewise, justified measures for flood prevention may be omitted, provided their omission does not increase or adversely affect the cost of installation, operation, and maintenance of irrigation, drainage or other water management facilities. If, however, local organizations seek assistance for works of improvement serving single purposes, and which could more appropriately be carried out under other Federal programs, they should be advised of such programs, and encouraged to seek assistance under them. In any event, such proposals should be assigned a low priority for assistance in relation to projects serving multiple purposes.

VII. ECONOMIC EVALUATION OF PROJECTS

The Act provides for Federal participation in the installation of works of improvement only after it has been determined that the benefits exceed the costs. The Act does not specify that benefits be evaluated in

monetary terms. It is, however, the Department's policy to require a favorable ratio of primary benefits to costs for all structural measures or groups of measures for which the Federal Government shares in the cost of installation. Secondary and intangible benefits should not be used for economic justification, but may be appropriately used as argument for project justification or proposals for establishing equitable cost-sharing arrangements. However, secondary and intangible benefits may appropriately be used as arguments for project justification if the economic justification is not adequate.

The Service will encourage the use of dam sites for multiple purposes wherever such multiple uses are feasible. Where use of a site for both flood-detention capacity and storage for irrigation, municipal water supply, or similar purposes is desired by the local organization, benefits accruing to all purposes may be used in determining the economic justification of the structure in accordance with the method described in Section 6. Structures designed, constructed, and operated to serve a single purpose must be economically justified on the basis of that purpose.

Experience has fully demonstrated that the combined private and public benefits from the installation of land treatment measures will exceed their costs. Although their costs and physical effects must be estimated, no specific determination of monetary benefits from land treatment measures will be required for economic justification except for those land treatment measures primarily for flood prevention which are eligible for cost-sharing from appropriations made under authority of the Act in accordance with the policy of the Secretary.

VIII. CAPACITY AND USE OF STRUCTURES

The Act limits the total capacity of any single structure that may be included in a watershed work plan to 25,000 acre-feet and further limits the floodwater detention capacity that may be provided in a single structure to 5,000 acre-feet. If either of these two limits is exceeded in a single structure, proposed or existing, that structure, or the modification of the existing structure, may not be included in a watershed work plan even if paid for entirely from non-Federal funds. Structures may be included in work plans to control natural lake levels if such structures do not provide capacity in excess of these limitations.

Total capacity as used in the Act is construed to mean the total volume of space available for water and sediment behind a dam below the elevation of the emergency spillway at which discharge begins. Floodwater detention capacity will be considered the capacity that is required to provide the designed level of protection during the economic life of a structure or 50 years, whichever is less. For natural lakes, the respective capacities behind structures are construed to mean the difference between the elevation of the natural lake outlet at which discharge begins, and the elevation at which discharge begins in the emergency and principal spillways.

The capacity allowance for sediment in any reservoir shall equal the volume of sediment expected to accumulate within the total capacity of the reservoir during a 50-year period after its construction. If a pool below the ungated outlet is to be provided in a structure to assure its efficient functioning during its economic life and its capacity would exceed the amount allowable under State law without a permit or water right, the outlet must be designed within the limits of State law and applicable water rights.

The regulation of the withdrawal and use of any accumulated water from the pool below the ungated outlet shall be a responsibility of the local organization(s) which has assumed responsibility for operation and maintenance.

Where flood occurrence is seasonal and predictable, capacity provided for floodwater detention may be used for temporary storage of water for beneficial use, if permitted by State law. The responsible local organization(s) prior to provision of financial assistance, however, must enter into an agreement with the Soil Conservation Service or other concerned Federal agency to maintain fully open any outlet gate installed on the structure to create temporary storage in the flood-pool area during such periods of time as the Service or other Federal agency may prescribe.

IX. WORKS OF IMPROVEMENT FOR NON-AGRICULTURAL WATER MANAGEMENT

A. Planning

Works of improvement for non-agricultural water management such as municipal or industrial water supply, recreation, power, fish and wildlife improvement, pollution abatement by stream flow regulation, and saline water intrusion control may be included in a watershed work plan. Measures for the treatment, distribution, or utilization of water stored for such purposes, however, may not be included.

The local organization will be required to provide, without reimbursement, professional engineers to work with the Service in developing the features of the plan relating to non-agricultural water management.

B. Installation

The entire cost of works of improvement allocated to non-agricultural water management must be borne by the local organization.

Local organizations will be required to provide, without reimbursement, professional engineers to work with the Service in the installation of structures involving non-agricultural water management.

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X. LIMITATION ON BRINGING NEW LAND INTO PRODUCTION THROUGH AGRICULTURAL WATER MANAGEMENT MEASURES

No Federal financial or technical assistance will be provided for projects in which the monetary benefits accrue primarily from bringing new land into agricultural production through drainage or irrigation measures.

No Federal financial or technical assistance will be provided within projects for separate or independent parts of drainage or irrigation systems, the primary purpose of which is to bring new land into agricultural production.

Any land which has not been used for agricultural production for at least two of the five years preceding the approval of the watershed for planning will be considered as new land. Agricultural production is defined as cultivated crops and tame hay. Drainage is defined by the Secretary's policy statement (See sec. 24).

XI. LAND ACQUISITION

No authority for land acquisition by the Federal Government is contained in the Act. The Service will not provide for any Federal sharing in the cost of land acquisition for any purpose. It is recognized, however, that in some watersheds acquisition of land by local organizations or the States may be needed to provide for adequate treatment and stabilization of such lands for flood prevention and other purposes. Such proposed land acquisition may be included in projects providing non-Federal interests bear the entire cost of acquisition.

XII. FISH AND WILDLIFE

In making surveys and investigations to determine the feasibility of preparing a work plan, the Service will give consideration to watershed problems of fish and wildlife. It will endeavor to determine if the proposed works of improvement will have any significant effects on these problems.

The Service will invite concerned Federal and State agencies to participate in determining if significant effects will result from the proposed plan of improvements.

If it is determined that significant adverse effects on fish and wildlife might be brought about, the Service will call on the Federal Fish and Wildlife Service in cooperation with the concerned State agencies to carry out appropriate investigations as mutually agreed upon. Such investigations shall be considered as a part of the project planning to be paid from funds made available for that purpose. The results of such investigations shall be included in the project work plan.

The Service will weigh carefully any recommended works of improvement that would adversely affect fish and wildlife and at all times foster any improvements that benefit fish and wildlife resources, including their protection and enjoyment by the public.

The Service will also assist local organization(s) in planning and operating works of improvement so as to provide any possible benefits in fish and wildlife, public recreational use, pollution abatement, and regulation of the low water flow of streams so long as such operation does not conflict with the primary purposes for which such improvements are installed.

XIII. PROJECT SCHEDULING

It shall be an objective in scheduling Federal assistance in carrying out a project that the work be accomplished over the shortest feasible period. It should be an objective to schedule projects for completion in five years or less after installation funds are made available, unless exceptional circumstances warrant a longer period.

A. Although the work plan will show the general sequence in which works of improvement will be installed, the Service will assist the local organization(s) in preparing and maintaining a schedule of operations in consideration of such factors as completion of required land treatment, availability of land, easements, and rights-of-way, completion of structural design, delays in completing contracts, availability of funds, and all other pertinent factors. Priorities for each item of work involving Federal assistance may be changed and rescheduled at any time.

B. Prior to providing Federal financial assistance for the construction of any structural works of improvement within a construction unit, the local organization(s) must have obtained all necessary land, easements, and rights-of-way for all structures within that unit. A construction unit is defined as a structure or group of closely related or interrelated structures which would be economically justified in the absence of the remaining works of improvement included in the project. A construction unit usually consists of all structural works of improvement located in the headwaters of, or on a tributary to, the main stream of the watershed under consideration.

XIV. CRITERIA FOR ESTABLISHING PRIORITY FOR FEDERAL ASSISTANCE

A. General Objectives

The criteria for priority in Federal assistance on watershed projects are based on the following general objectives:

1. To make the best possible selection of projects for planning, with the guidance of recommendations by the designated State agencies or Governors. Although all of the following criteria will be considered in approving watersheds for planning, primary consideration will be given to the National interest involved, including (a) major contributions to conservation and enhancement of water and land resources and existing developments, (b) strengthening of physically deteriorated and economically depressed areas in the interest of the public welfare, (c) numbers of people and value of resources benefited, and (d) extension of benefits beyond the project boundaries.

2. To assist in the preparation of watershed work plans at a rate consistent with annual appropriations.

3. To initiate installation of works of improvement on the basis of approval date of work plans.

B. Criteria For Use of State Conservationists in Recommending Watersheds for Planning and Washington Office Authorization for Planning

The following standards or conditions will be considered in establishing priority for approving applications and work plans for watershed projects:

1. Standards or conditions for a high priority watershed:

a. The local organization desires and has the resources to participate in a multiple-purpose project for which a need and opportunity exist for the optimum development or utilization, including adequate protection, of the soil and water resources of the watershed.

b. Flood prevention (agricultural or non-agricultural property) or agricultural water management are high priority objectives. Bringing new land into agricultural production shall not be the primary objective of works of improvement included in a project. Non-agricultural water management shall not be a dominant purpose of the project.

c. Land treatment measures needed for watershed protection and flood prevention are now on the land, or the local people are ready, willing, and able to install most of the needed measures within the proposed period of project installation.

d. Based on all available information, it is apparent that the project would produce a benefit-cost ratio appreciably in excess of 1:1.

e. The needed works of improvement constitute an integral part of a complete watershed project and are not single-purpose municipal or industrial water supply projects or single-purpose local flood control or water development projects which could more appropriately be carried out with Federal assistance provided under other small projects authorities.

f. Physical conditions are such that where flood prevention is an important need a plan for works of improvement can be developed to provide adequate flood protection to a major part of the flood plain area and at the same time permit the inclusion of such works of improvement as are needed to serve agricultural water management purposes.

g. Works of improvement will enhance fish and wildlife resources, or can be planned to mitigate any significant damages to such resources.

h. Interest in and understanding of the watershed project is prevalent throughout the watershed area and not confined to a few local leaders or special interest groups. There are no serious conflicts in interest among the watershed residents that would materially delay or prevent reaching final agreement on a plan for works of improvement for the watershed.

i. The local people are willing to carry out all phases of project installation, operation, and maintenance, and now have the financial ability or are ready and have means to initiate early action to make adequate financial arrangements for carrying out their full responsibilities with relation to the project.

j. The watershed project will be a harmonious element in the over-all river basin development program.

2. Additional standards or conditions which will be considered in determining relative priority:

a. Project in which the local people are ready, willing, and able to complete all planned works of improvement in short or reasonable periods of time.

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b. There is a need for watershed works of improvement that the local people cannot readily install with the technical and financial assistance available under nonproject-type National programs.

c. The State or local people, because of the economic interest in the watershed, desire to share in the cost of work plan development.

d. The availability of basic data relative to the watershed is such that the planning cost and the length of assignment of the work plan party would be reduced materially.

e. Proposed municipal or industrial water supply is required to meet existing deficiency of supply rather than for future community expansion.

f. The development and installation of the watershed project would strengthen physically deteriorated and economically depressed areas.

In considering these conditions for assigning priorities, equal consideration is given to providing the benefits of a watershed protection project to private and public land. The cost of planning the total number of watersheds approved at any one time within any one State will not exceed the resources available to that State for planning assistance for the next twelve months. Ordinarily this will limit active planning approvals to not more than four watersheds per planning party.

XV. ENGINEERING SERVICES

A. Watershed Planning

Engineering services needed for the flood prevention and agricultural water management phases of watershed planning which cannot be provided by the Service or other participating agencies or organizations may be employed by contract. Because of the specialized skills required in watershed planning and the legal and policy requirements of work plan preparation, such services will be limited to collection of basic engineering data, preparation of designs for cost estimating purposes and similar types of work.

B. Installing Works of Improvement

The Act provides that the local organization, with such assistance as it may request from the Secretary, may secure engineering services for the design, preparation of contracts and specifications,

awarding of contracts, and supervision of construction. The Secretary may furnish the local organization Government engineers, private engineers employed by the Secretary, or funds to reimburse it for engineers which it employs or retains for installing works of improvement for flood prevention or agricultural water management. The Secretary will not provide engineering services or reimburse the local organization for engineering services for the installation of works of improvement for purposes other than flood prevention or agricultural water management.

In order to carry out its responsibilities, the Service will:

1. Approve qualifications of professional engineers satisfactory to the Secretary in accordance with established standards.
2. Encourage and assist local organizations to obtain non-Federal engineering services when it is determined that such services will facilitate the installation of works of improvement.
3. Provide to professional engineers such engineering criteria as are necessary to meet SCS standards.
4. Approve all designs and specifications, and supervise construction for all works of improvement for which Federal financial assistance is to be provided.

XVI. SPONSORSHIP OF WATERSHED PROJECTS

All local organizations that will participate in carrying out, maintaining, and operating works of improvement included in a watershed work plan should be co-sponsors of the plan and sign the Watershed Work Plan Agreement. If, after Federal assistance is authorized for carrying out a watershed project, it is found that local organizations other than those signing the Watershed Work Plan Agreement will participate in carrying out, maintaining, and operating works of improvement, such local organizations should also become co-sponsors of the watershed project. This should be accomplished by all sponsoring local organizations and the Administrator signing an agreement supplementing the original Watershed Work Plan Agreement.

SECTION 3

APPLICATION FOR ASSISTANCE

I. SUBMISSION OF APPLICATIONS

Applications for assistance under the Act may be submitted by any qualified local organization(s). The application should be addressed to the Secretary of Agriculture and submitted to the designated State agency.

A sponsoring local organization(s) should submit its application in sufficient number to provide three manually signed documents, of which the original and one copy will go to the designated State agency and one to the State Conservationist concerned.

II. REQUIREMENTS FOR VALID APPLICATIONS

A. Sponsored by Qualified Local Organization(s)

1. An application will be accepted only from:

a. A local organization having authority under State law to carry out, maintain, and operate the works of improvement, or

b. A group of two or more local organizations having combined authority under State law to carry out, maintain, and operate the works of improvement contemplated in connection with a particular application.

2. When the status of any sponsoring local organization is other than a soil conservation district (Item 6, sample application form), the following additional information must accompany the application if it is not already on file with the Administrator:

a. An opinion preferably by the attorney general of the State, or by the legal counsel of the local organization, as to the authority the organization has to carry out, operate and maintain works of improvement under the Act. When it is intended that the organization is to provide funds for work outside of its boundaries or right-of-way (example: municipality or highway department) reference to such authority must be covered in the opinion, or

b. A citation of the State legislation under which the local organization was created. This may be noted on the signature page.

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3. The area in which a sponsoring local organization(s) is authorized to carry out, maintain, and operate works of improvement must include all areas other than Federal land upon which any works of improvement are to be installed. The authorities of sponsoring local organizations, as they concern a particular watershed, may be identical, coincide, overlap, or be entirely separated from each other. However, the combined authority of co-sponsoring local organization(s) must cover all the area for which works of improvement are needed to provide a complete watershed project.

4. Small areas in which sponsoring local organization(s) do not have authority to operate may be included in a watershed project when it is determined by the State Conservationist that the lack of works of improvement in such area will not materially affect the justification for or design of works of improvement in the project area.

B. Signed and Attested

The signature page of the application should be in substantial conformance with that of the sample application form. The application submitted to the Secretary of Agriculture must contain manual signatures since it is the document supporting the authority of the Administrator to expend funds for providing assistance to local organizations in the preparation of work plans. It should show:

1. The correct name of the qualified local organization(s) sponsoring the project, the signature and title of the individual signing, and the date signed;

2. An attestation of the authority of the individuals who sign the applications on behalf of the sponsoring local organization(s) or a copy of the resolution or excerpts from the official minutes as an attachment thereto;

3. The approval of the application by the designated State agency. An attestation or resolution is not required when the representative of the State agency signs on the approved signature page of the application.

C. Approved by the Designated State Agency

The designated State agency as used in this handbook means the Governor, the State agency having supervisory responsibility over watershed programs, or an agency authorized by the Governor to review applications.

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Service policy requires approval of the application by the State agency. Review of the application by the State agency serves the following purposes:

1. Informs the State authorities of the type of project being applied for under the Act, and

2. Assures the Service that works of improvement suggested in the application are not in conflict with comprehensive State programs, such as water development and distribution, flood control and drainage.

D. Watershed Conforms to Proper Size and Type

The size of the watershed can not exceed 250,000 acres and must be of a type eligible for assistance as described in section 2 of this handbook.

III. APPLICATIONS FROM TWO OR MORE STATES

An application covering a watershed including non-Federal land in two or more States must be signed by qualified local organization(s) in each State, and must be submitted to the designated State agencies of all States concerned. The processing of the application will be in accordance with arrangements mutually agreed upon by the State Conservationists and designated State agencies concerned.

When the portion of the area of a watershed that is in an adjacent State is all Federal land, such as National Forest or Bureau of Land Management land, a qualified local organization is not required to sponsor that portion of the watershed. However, the application must be submitted to the designated agency in each State into which any portion of the watershed extends.

IV. AMENDMENTS TO APPLICATIONS

Any significant amendments to the application relative to purpose, scope, boundaries, or sponsorship must originate with the sponsoring local organization(s) and be submitted in the same manner as the original application. For example, an increase or decrease in the size of a watershed may be made by an amendment to the original application. The amendment may be in the form of a letter submitted through the same channels used in presenting the original application. The letter or amended application must be signed by all the sponsoring local organizations, with attestations or other evidence showing authorization for signing. Also, approval by the designated State agency must be indicated. Signatures to the letter or amendment should be arranged similar

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to that shown on the signature page of the sample application. If the amendment is for a watershed which has been authorized for planning by the Administrator and he is in agreement with the amendment, notification of this action will be made in the same manner as for the original authorization. If no action has been taken on the application the amendment will simply be made a part of the original application. A revised map should be attached to the amendment.

V. FORM OF APPLICATION AND ATTACHMENTS

A form of application mutually satisfactory to the designated State agency and the State Conservationist should be used. A recommended sample, meeting all the legal requirements of the Act, is included in this section.

A. The sponsor(s) should include brief statements of: (1) the size and location of the watershed, (2) the nature of the problem, (3) the types of treatment believed needed and benefits expected, and (4) how it plans to meet its share of project costs, including furnishing all necessary land, easements, and rights-of-way, and provisions for the operation and maintenance of the proposed work.

B. A map should be submitted by the sponsor(s) and attached to the application. If the map does not show all of the following information, such information should be furnished by the State Conservationist at the time the application is transmitted to the Administrator:

1. Location of watershed with relation to county boundaries. This may be by use of a non-scale insert if desired.
2. Boundary of the watershed covered by the application.
3. Location and name of the principal watercourse into which the drainage of the watershed empties.
4. The location of principal towns, roads, and large areas of public land.
5. The boundary of the local organization(s) sponsoring the project, or a statement on the map to the effect that the watershed is entirely within said boundary. If there are important exclusions they should be indicated on the map.

C. If any organization(s) not having the required sponsorship authority under State law desires to endorse the application, it may do so, but such organization should be clearly indicated as endorsing organization and not as sponsoring local organization. It is preferred

that endorsing organizations do not sign on the signature page of the application, but a copy of each resolution endorsing the application should be attached thereto as supplemental material.

D. When the application is sponsored by two or more local organizations, it is desirable that one individual be designated to receive correspondence and arrange for meetings or conferences originated or suggested by the Soil Conservation Service or other agencies. The designation may be shown on the signature page or it may be handled by a letter from each of the sponsors and included as supplemental material accompanying the application.

E. Supplemental material such as previously prepared reports similar to the flood prevention reports by the Department of Agriculture or other agencies, newspaper items, pictures, and lists of names or resolutions from endorsers may accompany the application, but should not be made a part of it.

F. Fasten the material together to prevent loss and damage and to facilitate review of the application. A simple manila folder will answer the purpose. Arrange material so that the application, including the signature sheet, will be in the first part of the folder. Place newspaper articles, pictures, resolutions from endorsing organizations and other supplemental material in the back of the folder.

VI. TRANSMITTING APPLICATION TO ADMINISTRATOR

When the State Conservationist receives an application approved by the State agency it should be transmitted to the Administrator. This should be done promptly regardless of whether or not planning authority is to be requested for that watershed. With the transmittal memorandum include:

1. The original manually signed application.
2. A typed list of organizations, names of signers and their mailing addresses for all of the sponsors and endorsers to the application.
3. A map of the watershed that will provide the information listed in V-B if that information is not on the map attached to the application.

(The Administrator will acknowledge receipt of the application by letter to the sponsor(s) with copies to the State Conservationist and E&WP Units concerned.)

VII. REQUEST FOR PLANNING AUTHORIZATION

When a State Conservationist has technical facilities available to provide planning assistance to a local organization he will make a

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specific request for the required authorization. This request for authorization should be made to the Administrator at least 60 days in advance of the scheduled initiation of actual field surveys. There should be complete understanding with the local organizations as to when field surveys will be initiated. The request must include:

1. The name of watershed.
2. The designated State agency's current priority rating for the watershed application.
3. The approximate date by which authorization of the watershed application is desired.
4. The approximate date adequate technical facilities will be available to initiate field surveys and investigations.
5. An appraisal by the State Conservationist as to the feasibility of the proposed project giving full consideration to the criteria for providing planning assistance set forth in Section 2 of this handbook. Based on all available information, the State Conservationist will provide the Administrator with a statement of his appraisal of the following:
 - a. The need for flood prevention or water conservation and management for agricultural purposes.
 - b. The extent to which the works of improvement desired by the local people will constitute an integral part of a complete watershed project. If the proposed works of improvement are of the single-purpose type, such as municipal or industrial water supply projects, or single-purpose local flood control or water development projects, the State Conservationist should indicate whether, in his opinion, they could be appropriately carried out with Federal assistance provided under other small project authorities.
 - c. The extent to which works of improvement can be developed to provide adequate protection to a major part of the flood plain when flood prevention is an important need in the watershed.
 - d. The approximate area of new land which might be converted to agricultural production as a result of works of improvement which may be included in the proposed project.
 - e. The desire and resources of the local organization to participate in a multipurpose project. The State Conservationist should give full consideration to:

(1) The understanding of the local organization(s) of the watershed problems and the benefits of the program for which they are requesting assistance. Is interest in the watershed project prevalent throughout the area and not confined to a few local leaders or special interest groups? Are there conflicts of interest among watershed residents which might materially delay the installation of works of improvement?

(2) The willingness of the local organization(s) to carry out all phases of the project installation and operating and maintenance.

(3) The ability of the local organization(s) to make adequate financial arrangements for carrying out their full responsibilities.

(4) The ability of the local organization(s) to provide the necessary land, easements, and rights-of-way.

f. The extent to which needed land treatment measures have been applied and the willingness and ability of the local people to apply most needed measures within the proposed period of project installation.

g. The effects of works of improvement on fish and wildlife resources.

h. The economic feasibility of the proposed project. Is it apparent that the major proposed works of improvement will produce a benefit-cost ratio appreciably in excess of 1 to 1?

i. The interest of State and other Federal agencies in the proposed project.

6. An estimate of the additional funds that will be needed by other Federal agencies for planning on lands under their jurisdiction.

VIII. AUTHORIZATION FOR PLANNING ASSISTANCE

The Administrator, Soil Conservation Service, will advise the heads of concerned Federal agencies and the Governors of concerned States of the approval of each application and the intention to initiate the necessary surveys and investigations. The State Conservationist will simultaneously be advised of each approval.

It will be the State Conservationist's responsibility to advise concerned State agencies and field offices of Federal agencies, the Tennessee Valley Authority, if any part of the watershed is within the Authority, and the sponsoring local organization(s) of each approval.

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IX. APPLICATIONS DISAPPROVED

The following procedure will be followed when applications are not approved:

A. The designated State agency may disapprove the sponsoring local organization's application. The State Conservationist should notify the Administrator of the action taken by the designated State agency, and no further action will be taken by the Service with respect to that application.

B. The State Conservationist may determine that an application is inadequate; if so, the State Conservationist should work closely with the designated State agency and the sponsoring local organizations with the intent of correcting the deficiencies.

X. FIELD EXAMINATION

A field examination may be made prior to consideration of the application by the designated State agency or prior to the recommendation of priority by the State agency. If the State Conservationist considers that sufficient information is already available to submit the information required by item VII of this Section, the field examination may be omitted altogether.

If a field examination is made, a report on the findings thereof will be submitted to the Administrator as soon as completed.

The State Conservationist may want a field examination in order to make his appraisal of the proposed project. The State agency may also need additional information on which to base its action regarding the application. The field examination should be made only in sufficient intensity to meet the needs for evaluating the project and recommending planning priorities. If desirable, a field examination may be deferred until watershed planning priority recommendations are being considered.

It is important that all agencies and organizations that are directly concerned with the development of a project in the watershed be invited to furnish information pertinent to determining the preliminary feasibility of the project at the time the application is under consideration by the designated State agency and the State Conservationist. The State Conservationist shall develop procedures with the State agency for accomplishing this objective.

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XI. SUGGESTIONS FOR GROUPS CONSIDERING SUBMITTING AN APPLICATION

The Service will furnish information on the Act when requested, and the following steps are suggested:

A. Urge interested groups to give full consideration to all phases of the project, including responsibilities of the local people before an application is submitted. In most states, a soil conservation district is qualified to be a sponsor to an application, and the governing body is in a good position to carry out the education and information work necessary to acquaint the people in the area with the proposed project and to help determine if the interest and problems are sufficient to warrant submission of an application.

B. Furnish such basic information as a copy of the Act and any information the designated State agency may have developed. It is desirable that this material go to the local group from the State agency. The State agency should be advised of any information furnished by the Soil Conservation Service and encouraged to assist the group in preparation of their application.

C. Often other agencies will be involved and can give assistance. The local group should be urged to consult with them for advice and to determine what assistance they might be able to get from such agencies.

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APPLICATION FOR ASSISTANCE IN PLANNING AND CARRYING OUT WORKS OF IMPROVEMENT
UNDER THE
WATERSHED PROTECTION AND FLOOD PREVENTION ACT

TO THE HONORABLE
THE SECRETARY OF AGRICULTURE
UNITED STATES DEPARTMENT OF AGRICULTURE

The undersigned local organization(s) makes application for Federal assistance under the Watershed Protection and Flood Prevention Act in preparing and carrying out plans for works of improvement for the _____ watershed,
State of _____.

The following information is submitted in support of the application:

1. Size of watershed: _____ acres
2. Location of watershed
 - a. State(s) _____
 - b. County(ies) _____
 - c. Tributary of _____
3. Watershed problems:
4. Types, extent and probable location of watershed treatment measures
5. Local participation
6. Status of local organization(s)

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Witness the signatures of the undersigned local organization(s) on the dates shown below. (Type or print all information except signatures.)

<p>_____ (Name of Local Organization)</p> <p>By: (Sig.) _____ Title _____ _____ (Date)</p>	<p>This action authorized at an official meeting of _____ (Name of Local Organization) on _____ 19_____, at _____ State of _____ Attest: (Sig.) _____ (Secretary)</p>
<p>_____ (Name of Local Organization)</p> <p>By: (Sig.) _____ Title _____ _____ (Date)</p>	<p>This action authorized at an official meeting of _____ (Name of Local Organization) on _____ 19_____, at _____ State of _____ Attest: (Sig.) _____ (Secretary)</p>
<p>_____ (Name of Local Organization)</p> <p>By: (Sig.) _____ Title _____ _____ (Date)</p>	<p>This action authorized at an official meeting of _____ (Name of Local Organization) on _____ 19_____, at _____ State of _____ Attest: (Sig.) _____ (Secretary)</p>

The above local organizations request that all correspondence or contacts pertaining to this application be directed to:

Name

Mail Address

The foregoing application for Federal assistance under the Watershed Protection and Flood Prevention Act is hereby approved.

(State Agency)

By _____

Title _____

Date _____

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WATERSHED PROTECTION HANDBOOK

SECTION 4

WATERSHED WORK PLAN AND APPROVAL

I. GENERAL

The watershed work plan prepared by the local organization(s) will describe the watershed and its problems and set forth clearly and concisely a plan, the general sequence in which works of improvement are to be installed, the estimated cost, proposed cost-sharing arrangements and other responsibilities of those participating in the project, and economic justification for installing, operating, and maintaining those measures needed for the protection and improvement of the watershed. One of the primary purposes of the watershed work plan is to inform the President, the Congress, and the public (1) of the needs and desires of the local people, (2) of proposed expenditures on the watershed project, and (3) the justification for such expenditures in accordance with national authorities, policies, and regulations.

The watershed work plan must be the plan of the sponsoring local organization(s) and is the official document which is agreed upon by the Secretary of Agriculture and the local organization(s) for carrying out and maintaining and operating a watershed project. It will not contain details of design and related information which must be developed at the time of project installation, but will contain sufficient information to support the project. The watershed work plan must contain, as a minimum, the applicable information outlined in the Sample Watershed Work Plan, Section 23 of this handbook, but may also contain such further descriptive material or details as may be needed to make it serve most effectively in carrying out the project.

The watershed work plan will not be construed to obligate Federal funds. The annual allocation of funds to carry out the proposed work will be dependent upon availability of appropriations at the time of installation of works of improvement.

A watershed work plan is developed by making an inventory of the watershed conditions and problems; estimating costs of proposed works of improvement; estimating benefits; allocating costs; determining cost-sharing and other responsibilities of those participating in the project and the general sequence in which works of improvement are to be installed.

Assistance in the development of their watershed work plans should be provided the sponsoring local organization(s) only so fast and with such intensity of activity as is warranted by local interest, desire, and understanding. This approach is fundamental for reaching common conclusions and recommendations necessary to result in a mutually acceptable and agreed upon work plan.

Inherent in the planning process is the opportunity and responsibility for exercising judgment in adapting procedures to meet problems peculiar to a specific watershed. Modification of procedures in developing work plans should be encouraged if it results in greater efficiency in the use of planning time without sacrificing needed accuracy. Before data are collected and analyzed, the need for and probable use to be made of it should be critically considered. Every effort should be made to avoid unproductive investigations. Experienced judgment should be used to eliminate obviously undesirable alternatives rather than to depend upon cumbersome analytical procedures.

The processes involved in developing a watershed work plan are discussed under two broad headings, Administrative and Technical.

II. ADMINISTRATIVE

Since local initiative is basic in the development of watershed work plans, it is important that there be actual working arrangements with the local organization(s) in all phases of work plan development. A number of considerations must be met prior to final completion of a watershed work plan.

A. Initiation of Surveys and Investigations

The State Conservationist, after planning assistance has been authorized by the Administrator and necessary arrangements have been made, will notify the sponsoring organization(s) in writing and the field offices of all concerned Federal and State agencies of his intention to assist in the development of a watershed work plan, and will invite their assistance and cooperation (Section 18).

Prior to the initiation of surveys and investigations, a work outline will be prepared for the orderly development of either preliminary investigations or a detailed watershed work plan. The work outline should be prepared by the State staff member responsible for watershed planning with such assistance as may be desirable from the State staff, the work plan party, members of the Engineering and Watershed Planning Unit, the sponsoring local organization, and representatives of participating State and Federal agencies. The work outline should show the extent of and schedule for participation of all agencies, groups or individuals in the surveys and investigations including a joint determination by the State Conservationist, the State Forester, and the proper Forest Service official of the need for a professional forester on the watershed work plan party. If needed, the Forest Service representative will arrange for the assignment of a forester

(Forest Service or State forestry agency) to the watershed work plan party for the length of time necessary to (1) prepare the inventory of existing woodland conditions within the watershed (2) recommend the land treatment measures to be included in the watershed work plan for private non-farm woodlands, and (3) assist in developing the recommended land treatment measures for private farm woodlands.

At the same time arrangements should be made for coordinating planning activities of land-administering agencies of Federal land with those on non-Federal land. To the extent that the Federal agencies do not have needed planning funds, the State Conservationist may provide such funds in accordance with Section 11 of this handbook.

Copies of the work outline will be made available by the State Conservationist to the Head of the Engineering and Watershed Planning Unit, Washington-Field Plant Technologists, the sponsoring local organization, and all participating State and Federal agencies.

B. Progressive Development of Plan

A preliminary investigation should be made in all cases where there is any doubt that a feasible work plan can be developed.

The preliminary investigation should be made to obtain as much information as is necessary to ascertain watershed needs (flood prevention, drainage, irrigation, etc.), the character and scope of the project and its probable costs and benefits, and an estimate of the probable allocation of costs to Federal and non-Federal interests. Full use should be made of existing information. Only the minimum information necessary to make an adequate report should be gathered or compiled. When it is necessary to do field work and make computations, they should be accurate and properly referenced so that the information can be used if and when a detailed work plan is prepared for the watershed. All types of improvements within the scope of the Act should be considered even though they may not have been mentioned in the application.

The preliminary investigation should require only as much time of the Watershed Work Plan Party as is necessary to satisfy the purpose of the investigation. After the preliminary findings have been reviewed by the Engineering and Watershed Planning Unit, the State Conservationist or his representative should meet with the sponsoring local organization and participating agencies to determine the desirability of proceeding further with planning activities. The preliminary findings should be presented to the sponsors as a first estimate. That fact should be emphasized in all discussions of the subject. The ability of the sponsors to meet their share of the costs and other responsibilities should be explored at this time if the project appears to be feasible. The preliminary investigation and its consideration by the local organization

will provide the basis for a decision on the desirability of proceeding with the development of a detailed work plan.

C. Suspension or Termination of Work Plan Development

If at any time it becomes apparent that the sponsoring local organization(s) is unable or unwilling to meet requirements of the Act or Department policy for cost-sharing or other local participation, planning activities will be suspended. The Service will reconsider with the local organization(s) the objectives of the project or the intensity of the work proposed in an effort to develop a sound project within the ability and desires of the local organization(s).

If it becomes apparent at any stage of plan development that the requirements of the Act or Departmental policy cannot be met or a feasible plan cannot be developed, planning activities will be terminated. The State Conservationist, or his representative, will discuss the reasons for termination with the sponsor(s) and the representatives of the other participating agencies or groups. He will notify the Administrator that planning activities have been terminated. The notification should be accompanied by a brief report on the project setting forth the results of the investigations and the reasons for terminating planning activities. Concurrently, the State Conservationist will provide copies of the report to the local organization and the State agency and notify them that planning assistance by the Service is terminated.

D. Legal Requirements of Sponsoring Local Organization(s)

In the development of early draft copies of the watershed work plan, it will be necessary to determine that arrangements can be made for conformance to Section 4 of the Act. It will not be necessary, however, for the sponsoring local organization to complete such arrangements prior to completion and approval of a watershed work plan.

E. Project Contributions by Non-Sponsor.

When any non-sponsoring agency or organization is to bear any portion of the cost of the watershed project, it will be the responsibility of the sponsoring local organization(s) to obtain the concurrence in writing of such other agency or organization to its part in carrying out the watershed work plan prior to submitting the plan to the Administrator, SCS, for approval. A copy of such concurrence should be kept by the sponsoring local organization(s).

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F. Participation by Farmers Home Administration

As soon as it becomes evident that the local organization wishes to obtain a loan under section 8 of the Act, the State Conservationist will notify the State Office of the Farmers Home Administration and invite that agency to participate in the development of the watershed work plan. The local organization may begin preliminary negotiations with the Farmers Home Administration to explore purposes, terms, and conditions under which a loan might be made. This will assure a minimum of delay in processing a loan application at the time funds are needed to meet the local share of the cost of works of improvement.

G. Review of Tentative Work Plan

When a tentative work plan has been completed in the State, five copies should be sent concurrently to the Head, Engineering and Watershed Planning Unit serving the State, one copy to each of the concerned Washington-Field Plant Technologists (Administrator's Memorandum No. 104), one copy to the Forest Service Regional Office, if concerned, and five to the Administrator.

The Engineering and Watershed Planning Unit, which has assisted in developing the work plan, will review the plan from the standpoint of technical adequacy, conformance with procedures established in the Watershed Protection Handbook, format, contents, wording, etc. Any comments on these aspects of the work plan prepared by members of the Washington staff of the Planning and Engineering Divisions will be supplied to the Heads of the Units for their consideration in reviewing the tentative plan. All comments from the Plant Technology Division will be supplied to the State by the Washington-Field Plant Technologists. The reply from the Administrator will deal with policy matters, and with authorization to proceed with the informal review by other Federal and State agencies, and with final negotiations with the local organization after the comments of the Engineering and Watershed Planning Unit and the Washington-Field Plant Technologists have been received.

Informal field review should be accomplished by the local organization, or the local organization and the Service jointly calling a meeting for consideration of the tentative work plan. Representatives of all Federal and State agencies who have evidenced an interest in the watershed will be invited to participate. If it develops in the meeting that the impact of the work plan on agency activities or plans is sufficient to warrant additional time for review, a copy of the tentative work plan and additional limited time for review will be given to those agencies. The State Conservationist will submit a report of the review meeting, with any written comments received, to the Administrator with the final work plan.

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It is desirable, in most cases, for representatives from the Units to assist the State Office staff in incorporating the Unit's comments and shaping up the draft of the final work plan. In this event, the Unit's technical concurrence on the final plan becomes a mere formality of supplying a memorandum indicating concurrence for transmittal with the final plan.

When non-monetary benefits enter into cost sharing of measures for agricultural water management purposes, it may be desirable for the State Conservationist to request prior approval of the cost-sharing provisions before submission of the tentative work plan. The request should be accompanied by the following information for agricultural water management measures:

1. A brief description of the measures to be installed and their estimated cost. The cost may be shown in the form of Table 1.
2. The basis of cost-allocation for multiple-purpose structural measures.
3. A complete description of the non-monetary benefits.
4. The value of direct identifiable benefits, secondary benefits, and total monetary benefits.
5. The justification for proposed cost-sharing based on the relationship of direct identifiable benefits to total benefits including non-monetary benefits.

H. Review and Processing of Final Work Plan at State Level

The State Conservationist will make arrangements to duplicate the final watershed work plan as soon as technical concurrence has been received from the Engineering and Watershed Planning Unit and the local organization has agreed to the plan by signing five copies of the watershed work plan agreement. The final work plan will be processed by the State Conservationist as follows:

1. Plans not requiring approval by committees of Congress
 - a. Transmit copy to the Governor with request for review and comment.
 - b. Transmit copies to field offices of Federal agencies who will participate in the installation of the proposed project, with request for review and comment.

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c. Upon receipt of comments from Governor and field offices of participating Federal agencies, forward to the Administrator:

(1) Five copies of final work plan, including manually signed watershed work plan agreement, with

(a) Original and one copy of comments received from Governor and field offices of participating Federal agencies.

(b) Supporting information as outlined on page 3, section 23.

(2) Twenty copies of final work plan without watershed work plan agreement.

d. Concurrently with c. transmit copies of final work plan to field offices of concerned Federal and State agencies for information.

2. Plans requiring approval by committees of Congress

a. Forward to the Administrator:

(1) Five copies of final work plan, including manually signed watershed work plan agreement, with supporting information as outlined on page 3, section 23.

(2) Fifty copies of final work plan without watershed work plan agreement.

b. Transmit copies of final work plan to field offices of concerned Federal agencies and the Governor, to facilitate review. No formal comments should be requested at the State level but the transmittal letter should advise that such comments will be requested by the Administrator from the Governor and the Washington offices of the concerned Federal agencies.

I. Review, Processing and Approval of Final Work Plans at Washington Level

1. Work plans not requiring approval by committees of Congress

a. The Administrator will indicate his approval of the work plan by signing the watershed work plan agreement. Two copies of the signed work plan will be returned to the State Conservationist who will retain one copy and provide the other to the local organization.

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b. The Administrator will return work plans to the State Conservationist for further consideration with the local organizations when such plans do not conform to the requirements of the Act or of policy or as a result of any unresolved questions raised by comments of the Governor or concerned Federal agencies.

c. The Administrator will transmit copies of approved work plans to the Heads of concerned Federal agencies and the Governor for information.

2. Work plans requiring approval by committees of Congress

a. The Administrator will transmit copies of final work plans to the Heads of concerned Federal agencies and the Governor, with a request for comments within 30 days.

b. The Administrator will return work plans to the State Conservationist for further consideration with the local organization when work plans do not conform to the requirements of the Act or of policy or as a result of comments from the Governor or concerned Federal agencies.

c. The Administrator will indicate his approval of the plan by signing the watershed work plan agreement.

d. Final work plans signed by the Administrator will be transmitted by the Secretary of Agriculture to the Bureau of the Budget for subsequent transmittal by that Bureau to the Congress.

e. After work plans have been approved by resolutions adopted by the appropriate committees of the Senate and House of Representatives, the Administrator will return two copies of the signed work plan to the State Conservationist who will retain one copy and provide the other to the local organization.

f. The Administrator will notify the Governor when work plans have been approved by resolutions adopted by the appropriate committees of the Senate and House of Representatives.

J. Revision of Work Plans

When any changes in either the purpose or scope of works of improvement or in the local organizations sponsoring a project are contemplated subsequent to authorization of Federal assistance in the installation of works of improvement, such changes and their justification should be submitted to the Administrator for approval. After technical concurrence in the changes has been obtained from the Engineering and Watershed Planning Unit and approval has been indicated

by the Administrator, a Supplemental Watershed Work Plan Agreement similar to the sample contained at the end of this section should be executed by all sponsoring local organizations and submitted to the Administrator for his signature. A supplement to the Watershed Work Plan presenting the same type of information for the new or modified works of improvement as was presented for the works of improvement included in the approved Watershed Work Plan, including a revised table 2 for the modified project, should be prepared. This supplement should be attached to and made a part of the Supplemental Watershed Work Plan Agreement. The same number of copies should be transmitted as were required for the original work plan. When changes in sponsoring local organizations are the only changes involved, five copies of the signed Supplemental Watershed Work Plan Agreement only should be submitted to the Administrator for his signature.

Significant changes in the purpose and scope of watershed work plans that have been approved by resolutions of the committees of the Congress will also require committee approval prior to providing Federal assistance in the installation of the works of improvement involved. When any changes in purpose or scope of watershed work plans that have not been approved by resolutions of the committees of the Congress increase the estimated Federal contribution to construction costs above \$250,000 or provide capacity in any single structure in excess of 2,500 acre-feet, such changes will also require committee approval prior to providing Federal assistance for the works of improvement involved.

III. TECHNICAL

A. Work Outline for Watershed Work Plan Development

As soon as a watershed is approved for planning, a work outline should be prepared prior to the initiation of surveys and investigations or a detailed watershed work plan. This outline should show in proper sequence the major jobs to be done, who will do each job, and a time schedule indicating when each job will be initiated and completed. It should be prepared in such a way that each participant will know what he is to do and when his services are to be made available. It will guide the State Conservationist in scheduling the services of personnel on his staff. It will also guide other participating agencies and the local organization in scheduling their services so that they will be available when needed. Prior to developing the work outline, all existing maps and other facilitating data should be assembled and a reconnaissance field investigation made of the watershed to determine the scope and magnitude of needed studies.

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In each case, the work outline will provide for reports to be made, and discussions to be held with the sponsoring local organization. At these meetings, a decision will be reached concerning continuation of planning activities or necessary revisions that should be made in the work outline.

Such an outline will be prepared for each specific watershed giving adequate consideration to paragraph III C of this section. It will contain brief summary statements of the major planning activities, which will be supported by tables such as the following samples:

1. Watershed Planning Time Requirements
2. Watershed Planning Schedule and Progress Report

The activities listed in the tables should be those major planning activities that are pertinent to the watershed.

Watershed Planning - Time Requirements
David Creek Watershed - Middlestate
(Illustrative only)

Activity	Soil Conservation Service				Use a column for each SCS position used in preparing plan	Forest Service		Local Organization		
	GS- Party Leader	GS- Hydro	GS- Economist	GS- Geologist		GS- Forester	GS- (Use columns as necessary)	Use applicable headings in columns -such as Stenographers, etc.	Total Man Days	
List all types of activities applicable in watershed being planned. Some suggested items are illustrated below:										
Watershed Work Maps	2									
Watershed Boundaries	2	20								
Land Treatment for Project	2		4			8				

Damage Appraisal	2		40							

Collection Geologic & Sed. Data	2			25						

Project Formulation	25	25	25	25		8				

Drafting Work Plan Tentative	8	8	8	8		2		8		

Final Work Plan	8	8	8	8		2		8		

Administrative	12									

Allocated Leave Time	11	8	8	5						
Total Man Days	74	69	93	69		20		16		
Cost - dollars										

Percent Completed

WATERSHED PLANNING SCHEDULE AND PROGRESS REPORT

DAVID CREEK WATERSHED - MIDDLESTATE

(Illustrative only)

Type of Activity	Man Days	% of Tot.	Sequence of Accomplishment of Job					Percent Completed	
			(month)	(month)	(month)	(month)	(month)	(month)	(month)
									100
Watershed Work Maps	17	1.9	XXXXXX						90
Watershed Boundaries	22	2.5	XXXXXXXXXXXX						80
Land Treatment Sch. for Proj. Period	13	1.4		XXX					70
Recon. Soil Survey Map Measure	13	1.4	XXXX						60
Damage Appraisal	55	6.3	XXXXXXXXXXXXXXXXXXXX						50
Conservation Needs Study	7	0.8	XXXX						40
Present Land Use	9	1.0	XXXXX						30
Hydrologic Land Classes	12	1.3		XXX					20
Compil. Rainfall & Runoff Data	12	1.3		XXXXXXXX					10
Vertical Control Surveys	86	9.9	XXXXXXXXXXXX						0
Profile & Valley Cross-Sections	234	27.0	XXXXXXXXXXXX						
Collection Geol. & Sed. Data	34	3.9	XXXXXXXXXXXX						
Survey Structure Sites & Estimates	60	6.9	XXXXXXXXXXXX						
Evaluation	104	12.0	XXXXXXXXXXXX						
Report Prep.-Review & Approval	32	3.7			XXX				
Tentative Report	47	5.4			XXXX				
Final Report	46	5.3				XXXXXXX			
Administrative	69	8.0	XXXXXXXXXXXX			XXXXXXXXXXXX			
TOTALS	872	100							

Schedule

XXXXXXX Proposed Schedule of Work
 Curve Proposed Percent Completion

Actual Progress

Shown by color, figures, or dashed curve

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B. General Technical Planning

Often more than one combination of measures must be considered to reduce flood, sediment, and erosion damages or provide irrigation, drainage, or other water-management improvements or benefits. Although every effort must be made to hold planning costs to a minimum, sufficient consideration should be given to each proposed combination of measures which appears practical. Estimates should be made of the approximate effect of damage reductions or benefits provided by each combination of measures.

Sufficient surveys should be made to prepare sound preliminary cost estimates of all structures and other measures which are being considered for Federal financial assistance. The technicians and the sponsoring local organization(s) should study the various combinations of measures in order to arrive at the most desirable plan.

After the major elements of the works of improvement to be included in the plan have been tentatively agreed upon, the technicians will make whatever additional studies, surveys, and analyses are required to complete a sound plan. The final plan selected should be the one which will most nearly provide the maximum net benefits in accomplishing the purposes of the local people.

All works of improvement planned under the Act shall conform to the Soil Conservation Service standards and criteria established for use in the State. When such works of improvement are planned for installation on Federal lands, they shall also conform to the standards of the land-administering agency involved.

Consideration must be given to any existing or proposed projects or programs which would significantly affect or be affected by the proposed works of improvement. To the extent required to make such determinations, investigations and surveys may be made beyond the boundaries of the watershed. The Administrator, SCS, is required to certify that the proposed works of improvement constitute needed and harmonious elements in the comprehensive development of the river sub-basin or river basin involved. (Sec. 8 of the handbook)

When firm cost estimates have been made and all effects of the proposed measures in the plan have been determined, the comparison of the benefits and costs for all independent measures and each evaluation group of interdependent measures will be made. Only those parts showing a favorable ratio of benefits to costs are to be included in

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the watershed work plan. When the benefit-cost ratio for any measure or group of measures falls below 1.2 to 1, the cost estimate should be re-examined to make certain the installation cost will not exceed the estimate by an amount that would cause the item to be uneconomical at the time of installation.

C. Surveys and Investigations

1. Inventory of watershed conditions and problems

a. A base map of such scale and detail that meets the need for planning and recording of data should be prepared if not already available. The base map should be suitable for reduction to manuscript size for inclusion in the work plan.

b. The scope and intensity of surveys and investigations to inventory watershed conditions and problems should be based on the availability of pertinent data and the needs prescribed by the watershed. The inventory should be described in the work outline and may consist of studies of such pertinent watershed problems as:

(1) For flood prevention: the character and extent of land areas subject to overflow, flood damage caused by such overflow, the effect of overflow on land use, frequency of overflow, watershed conditions in relation to the flood problem and effectiveness of existing or soon to be built flood-prevention measures.

(2) For agricultural water management: the condition and adequacy of existing irrigation, drainage or other agricultural water management facilities, operation problems and water losses of existing irrigation facilities, status of irrigation water rights, water supply and water requirements, degree and extent of area affected by inadequate water supplies, degree and extent of area affected by high water levels and soil or geologic conditions affecting development, utilization or disposal of water.

(3) For non-agricultural water management: the condition and adequacy of existing non-agricultural water supply facilities, water rights in connection therewith and present and probable future needs for water.

2. Project formulation

In addition to the requirement that project formulation must be carried out in accordance with the requirements of the Act, the policies set forth in this handbook, and sound technical procedures,

the work plan should conform to the purposes desired by the local people provided such conformance does not result in greater Federal cost. Some of the studies that may be necessary for project formulation include the determination of:

a. For flood prevention: land-treatment measures to accomplish program objectives; effect of land-treatment measures on damages and benefits; the kind, number, and cost of structural measures that are needed and justified for reducing the flood hazard to a level necessary for continued and sustained use of flood plain land; and an equitable allocation of the cost of multiple-purpose structural measures to flood prevention purposes.

b. For agricultural water management: the kind, number, and cost of structural measures that are needed and justified for efficient utilization of agricultural soil and water resources; the land-treatment measures needed to obtain the benefits of the structural measures; an equitable allocation of the cost of multiple-purpose structural measures to agricultural water management; and equitable sharing of the cost based on benefits.

c. For non-agricultural water management: the kind, number, and cost of structural measures that the local organization desires to include in the work plan and equitable allocation of costs to this purpose.

Alternative means of accomplishing project objectives should be considered for all purposes to the extent necessary to determine the advantages or disadvantages of each. The local people should receive information pertinent to project formulation as it becomes available so that they may gain the knowledge and understanding necessary to evaluate the alternatives.

D. Writing the Watershed Work Plan

The work plan should tell the story of the watershed by describing its soil and water management problems; the steps that have been or are authorized to be taken to ameliorate these problems; the additional works of improvement that are needed and feasible; their effects on damages and benefits; and the needed arrangements for accomplishing the plan. Supporting data will be included only to the extent necessary to show that the work plan is based on adequate data which has been properly evaluated.

1. The format and content of the watershed work plan required to meet the provisions of the Act are given in Section 23 of this

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handbook. The Service will assist the sponsoring local organization(s) to incorporate all pertinent aspects of watershed protection, flood prevention, and water management, giving full consideration to the recommendations of all participating Federal and State agencies in preparing the watershed work plan.

2. The Service is responsible for assuring that all parts of the work plan are fully coordinated, and that the work plan correctly reflects the works of improvement which have been agreed upon. The Service will also be responsible for adherence to established technical standards, and compatibility with other programs of State and Federal agencies.

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SUPPLEMENTAL WATERSHED WORK PLAN AGREEMENT

between the

Local Organization

Local Organization

Local Organization

State of _____
(hereinafter referred to as the Sponsoring Local Organization)

and the

Soil Conservation Service
United States Department of Agriculture
(hereinafter referred to as the Service)

Whereas, the Watershed Work Plan Agreement for _____
Watershed, State of _____, executed by the sponsoring
local organization named therein and the Service, became effective on
the _____ day of _____, 19____; and

Whereas, in order to carry out the watershed work plan for said
watershed, it has become necessary to modify said Watershed Work Plan
Agreement; and

Whereas, a Supplemental Watershed Work Plan for said watershed has
been developed through the cooperative efforts of the Sponsoring Local
Organization and the Service which plan is annexed to and made a part
of this agreement; 1/

Now, therefore, the Sponsoring Local Organization and the Service
hereby agree upon the following modifications of the terms, conditions,
and stipulations of said Watershed Work Plan Agreement:

1/ When a change in the Sponsoring Local Organization is the only
change involved, this paragraph should not be used.

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(Specify modifications and the responsibilities of the affected local organizations, using original agreement as a guide.)

- 1.
- 2.
- 3.
- 4.

The Sponsoring Local Organization and the Service further agree to the terms, conditions, and stipulations of said Watershed Work Plan Agreement, as modified herein.

Local Organization

By _____

Title _____

Date _____

The signing of this agreement was authorized by a resolution of the governing body of the _____

Local Organization

adopted at a meeting held on _____

(Secretary, Local Organization)

Date _____

Local Organization

By _____

Title _____

Date _____

The signing of this agreement was authorized by a resolution of the governing body of the _____

Local Organization

adopted at a meeting held on _____

(Secretary, Local Organization)

Date _____

Local Organization

By _____

Title _____

Date _____

The signing of this agreement was authorized by a resolution of the governing body of the _____

Local Organization

adopted at a meeting held on _____

(Secretary, Local Organization)

Date _____

Soil Conservation Service
United States Department of Agriculture

By _____
Administrator

Date _____

SECTION 5

MEASURES ELIGIBLE FOR ASSISTANCE

I. ELIGIBLE MEASURES

All measures to be installed for the purpose of flood prevention and watershed protection, drainage, irrigation, or other water management are eligible for some form of Federal assistance. Assistance under the Act may be provided in the kinds and amounts set forth in other sections of this handbook for the categories of measures described in the following paragraphs.

A. Land Treatment Measures

Land treatment measures will be planned for Federal and non-Federal land with a view to providing the highest feasible degree of runoff retardation, sediment control, and water management consistent with the criteria set forth in Section 2 of this handbook. Only those measures which qualify for assistance under the Act with their application as specified in Section 2 IV will be included in work plans.

1. Land Treatment Measures Primarily for Watershed Protection

Land treatment measures primarily for watershed protection are essential elements of a watershed project which are frequently installed on privately owned lands by individuals acting independently and on public land by public land management agencies. They are not dependent upon group action for installation, nor group benefits for justification.

These measures are necessary and justified for the conservation, development, and improvement of individual land ownerships and public lands. They would commonly be included in conservation plans even without considering their important role in watershed protection and in assuring the continuing effectiveness of group facilities for flood prevention, drainage, irrigation, or other phases of water management. They also include all normal land treatment measures such as land leveling, field drainage, clearing, farm irrigation systems, etc., associated with development of land necessary to take advantage of irrigation, drainage, restoration of productivity and change in flood plain land use.

The maximum justifiable expenditure of P.L. 566 funds in any watershed project, irrespective of land ownership, for the purposes of planning and applying land treatment measures for watershed protection is obtained by capitalizing the average annual flood prevention and water

management benefits of such measures in perpetuity at the long-term borrowing rate of the Federal Government as determined by the Secretary of the Treasury for administration of section 8 of the Act.

2. Land Treatment Measures Primarily for Flood Prevention

In many watersheds, land treatment measures primarily for flood prevention are highly important elements of a watershed project. They are installed on privately owned land by individuals or groups, or on public land by land management agencies. Their primary purpose is to stabilize and restore land that is the source or threatens to soon become the source of large amounts of floodwater and sediment. They are designed to fill the need for complete watershed protection between the land treatment measures primarily for watershed protection and the larger, more costly stabilizing structures.

The following land treatment measures, if economically justified, and installed primarily but not exclusively for flood prevention, are eligible: (1) intensified fire prevention and control; (2) stabilization of critical areas, including roads and streambanks, primarily by vegetative practices; (3) minor gully, streambank, and grade stabilization, primarily by structures, where the total construction cost of stabilizing an individual gully or section of channel does not exceed \$2,000; and (4) special purpose terraces and other on-farm measures used in lieu of downstream flood prevention structures.

Critical areas are gullied or seriously eroding land in land use capability classes IV through VIII. They are a source of excessive runoff and sediment which contribute to downstream damages or which would adversely affect structural works of improvement included in the project. After treatment and stabilization, the use of such areas will be restricted to woodland, hay, and seed harvest, or limited grazing, within sound technical standards.

Land treatment measures primarily for flood prevention usually consist of vegetative and minor structural control and include but are not limited to: tree planting, seeding, sodding, establishment of shrubs and vines, and such minor structural items as special purpose terraces and minor check dams and gully plugs, desilting and debris basins, drop inlets, chutes and diversions for stabilization of critical runoff and sediment producing areas, gullies and minor waterways; and the installation of firebreaks, towers, roads, shelters, and the provision of equipment for increased fire protection to serve flood prevention purposes.

B. Structural Measures for Flood Prevention

Individual landowners would not generally be expected to install such structural measures on their own land even with the forms of assistance supplied directly to them under other national conservation programs. These measures ordinarily require group action for their installation and always require group benefits for their justification. They must be planned on a watershed-wide basis and may not necessarily be included in an individual farm or ranch conservation plan.

Structural measures for flood prevention may include any form of earthwork, either excavation or construction; erection of installations of concrete, masonry, metal, or other materials, and the planting of vegetation associated with such structural work.

Structural measures for flood prevention include land stabilization measures and waterflow control measures.

1. Land Stabilization Measures

Assistance may be provided for those land stabilization measures installed primarily for the purpose of preventing land destruction and the production of damaging sediment which affects groups of landowners, communities, and the general public.

Major structural measures necessary for grade stabilization; major gully stabilization; streambank stabilization; and the establishment, development, or improvement of interfarm or subwatershed waterways are eligible for assistance. These measures usually consist of structural control and include, but are not limited to, shaping and seeding or sodding interfarm waterways; lining channels with grass, rock, concrete, asphalt, or other materials; diversions; drop spillways; chutes; drop inlets; desilting areas or basins; debris barriers and basins; jetties; riprap; deflectors, and the sloping of channel banks.

2. Waterflow Control Measures

Assistance may be provided for waterflow control measures installed primarily to control damaging waterflows and waterborne sediment affecting groups of landowners, communities, and the general public. These measures are eligible for assistance only when the land treatment and land stabilization measures needed to assure their reasonable protection and successful functioning are installed or are in the process of installation, as specified in this handbook (Section 2).

Waterflow control measures include, but are not limited to, floodwater-retarding structures; clearing, straightening, and enlarging stream channels; levees and dikes; major debris and desilting basins; floodways; and floodwater diversions required to reduce floodwater and sediment damage. On flat land, measures required to convey, control, or dispose of surface water caused by abnormally high direct precipitation or stream overflow qualify as waterflow control measures.

C. Agricultural Water Management

1. Drainage Measures

Assistance for drainage measures may be provided primarily for increasing the efficiency of land use on existing farms or ranches by the rehabilitation and improvement of existing drainage systems or the construction of new drainage systems to serve existing crop and pasture land by lowering the water level in areas where naturally high water tables, normal precipitation, seepage, tidal action, or excess irrigation water limit agricultural production. Drainage of land not previously or not now used for agricultural production shall be incidental to and not a primary purpose of any such assistance. Assistance will be limited to measures that affect groups of landowners, communities or the general public. Individual landowners and operators may not commonly be expected to install such drainage measures on their own farms or ranches even with forms of assistance supplied directly to them under other national conservation programs. These measures ordinarily require group action for their installation and always require group benefits for their justification.

Drainage measures that serve a group of farms for which assistance will be provided include, but are not limited to, construction or rehabilitation of artificial channels (open drains) or covered (tile) drains, or the rehabilitation and improvement of natural channels. The drains may have gravity outlets or may convey drainage water to pumping plants for disposal. These measures will include all parts of the group drainage system including drops, checks, flumes, control gates, manholes, and other appurtenant control and stabilization measures. They will also include installation of pumping plants and appurtenances to provide outlets for gravity drains or to reduce and control accumulations of groundwater related to subsurface drainage and salinity problems.

2. Irrigation Measures

Assistance for irrigation measures may be provided primarily to make more efficient use of water on land now used for agricultural purposes and to obtain the maximum practical benefits for existing investments in irrigation. Irrigation facilities for land not previously or not now used for agricultural purposes shall be incidental to and not a primary purpose of any development. Assistance will be limited to

measures that affect groups of landowners, communities, and the general public. These measures ordinarily require group action for their installation and always require group benefits for their justification.

Irrigation measures that serve a group of landowners for which assistance will be provided include, but are not limited to, water supply reservoirs, diversion dams, wells, pumping plants, sluiceways, canal headworks, canal laterals, and main distribution system pipelines to convey project water to each farm unit. This may include canal lining and lining or sealing existing storage reservoirs. Such irrigation measures also include other works needed to conserve and efficiently use present and potential water supplies and to convey them to individual farms with the least practical loss.

3. Other Agricultural Water Management Measures

Assistance may be provided for other agricultural water management measures installed for the purpose of providing a more uniform supply and distribution of water for agricultural use by two or more landowners and when such measures are an integral part of a watershed plan. Measures for the stabilization of annual streamflow, increasing the recharge of groundwater reservoirs, and installing community water supply and distribution systems to provide water for livestock, orchard and crop spraying, rural community use and other agricultural uses may be considered in this category, including, but not limited to, well development, control of salt cedars and other phreatophytes, water supply and distribution systems, and other related measures.

D. Non-Agricultural Water Management

Assistance may be provided for works of improvement for non-agricultural water management purposes such as municipal or industrial water supply, recreation, power, fish and wildlife improvement, pollution abatement by streamflow regulation, and saline water intrusion control. Storage for such purposes may be incorporated in single-purpose or multiple-purpose structures which are an integral part of a plan for the protection and improvement of an entire watershed or sub-watershed area.

II. MEASURES NOT ELIGIBLE

The following measures are ineligible for assistance: (1) Independent or interdependent groups of measures that do not provide direct measurable flood prevention or water management benefits to two or more

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beneficiaries, (2) measures for the treatment, distribution, or utilization of water stored for non-agricultural purposes, except for pipelines or other facilities for conveying water from storage reservoirs to the boundaries of urban areas or to the treatment plants if located outside of such boundaries, (3) new storm and sanitary sewers or relocations and changes to existing sewer facilities, in urban areas, (4) structures or measures for non-agricultural purposes if no works of improvement for flood prevention or agricultural water management purposes are planned for the project, and (5) structures providing more than 5,000 acre-feet of floodwater detention capacity or more than 25,000 acre-feet of total capacity including modifications of existing structures exceeding these limitations.

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SECTION 6

BENEFIT-COST DETERMINATIONS

I. REQUIREMENTS OF THE ACT AND ADMINISTRATIVE REGULATIONS

Section 3 of the Act authorizes the Secretary to make such studies as may be necessary for determining the physical and economic soundness of plans for works of improvement, including a determination as to whether benefits exceed costs.

Executive Order No. 10584, prescribing rules and regulations relating to the administration of the Act, vests in the Secretary of Agriculture responsibilities with respect to (1) establishing criteria for the formulation and justification of plans for works of improvement, and (2) establishing engineering and economic standards and objectives, including standards as to the degrees of flood protection, for works of improvement planned and carried out under authority of the Act.

The Department's policy states, "Works of improvement shall be based on sound economic analysis. Costs shall be less than primary benefits. Benefits are to be assessed with care and are to be clearly creditable to the improvement. Secondary and intangible benefits should not be used for economic justification but may appropriately be used as argument for project justification or proposals for establishing equitable cost sharing arrangements."

Bureau of the Budget Circular A-47 requires that reports on projects of the type planned under the Act should show separately the particular benefits and economic costs attributable to each purpose of the project.

The provisions of this section are intended to serve a number of interrelated objectives. They provide a guide for the formulation and selection of sound projects. Application of the provisions will show whether benefits are in excess of costs, guide project formulation, aid in selecting the least costly means of meeting project needs, and provide data for determining equitable sharing of costs.

Monetary evaluations are to be made of measures to the extent necessary to determine the economic justification of installations to be financed in whole or in part from funds appropriated under the Act. Evaluations will be made of all measures, other than land treatment measures for watershed protection, for which Federal assistance in installation is provided.

The Service will make such studies as may be necessary for formulating projects that are justified on the basis of incremental benefits and costs for each of the separable segments. Land-treatment measures are the basic element of any watershed project and shall be considered the nucleus or initial increment for project formulation. All other measures or groups of measures shall be justified for inclusion in the project on the basis that the land-treatment measures scheduled for completion in the watershed work plan are installed. Realistic estimates of the types and quantities of land-treatment measures which should be installed within the agreed-upon schedule for completion of the project should be used. After the project has been formulated, benefits may be apportioned to the various separately justified segments of the project in accordance with their accrual to these segments upon installation.

II. MEASURES NOT REQUIRING MONETARY EVALUATION

A. Land-Treatment Measures for Watershed Protection

Land-treatment measures on forest and open land installed principally for the conservation and improvement of the lands upon which they are installed will not be evaluated monetarily. The Congress has recognized in prior National legislation providing for Federal assistance in soil and water conservation and forest protection and management that such assistance is in the public interest. The Department has found through experience that land-treatment measures installed with such assistance produce combined public and private benefits in excess of their costs. Since such other programs do not require a benefit-cost analysis for Federal assistance, it will not be necessary to determine the relation of benefits to cost for the land-treatment measures for watershed protection.

B. Measures or Purposes for Which Federal Technical, Cost-Sharing or Credit Assistance Will Not be Made Available From Funds Appropriated Under Authority of the Act.

III. MEASURES REQUIRING MONETARY EVALUATION

A. Land-Treatment Measures for Flood Prevention

Land-treatment measures in the following categories which are installed primarily, but not exclusively, for flood prevention will require an evaluation of benefits and costs: (1) fire prevention and control, (2) critical area stabilization primarily by vegetative practices, (3) minor gully and channel stabilization measures, and (4) special purpose terraces and other on-farm measures used in lieu of downstream flood-prevention structures (Sec. 5).

B. Structural Measures

An evaluation of benefits and costs will be required for those structural measures and purposes for which Federal assistance will be made available from funds appropriated under authority of the Act.

IV. PROCEDURES TO BE USED IN MAKING BENEFIT-COST DETERMINATIONS

A. Structural Measures Interdependent with Land-Treatment Measures

In evaluating structural measures which are interdependent with land-treatment measures, it will be necessary to make a monetary evaluation for appropriate subdivisions of the measures and subdivisions of the watershed to determine economic feasibility. To be included as interdependent measures, a significant functional relationship shall exist between the structural measures and the land-treatment measures. Where they are evaluated together it will be necessary to determine the benefits attributable to the structural measures and the land treatment measures for flood prevention.

1. Structural measures interdependent with land treatment measures for watershed protection.

The benefits of structural measures interdependent with land treatment measures for watershed protection are equal to the benefits of the interdependent measures minus the cost of the land treatment measures which is treated as an associated cost.

2. Structural measures interdependent with land treatment measures for flood prevention.

The benefits of structural measures and the benefits of land treatment measures for flood prevention in a system of interdependent measures are allocated to each group of measures in proportion to costs.

B. Land Treatment Measures for Flood Prevention Interdependent with Land-Treatment Measures for Watershed Protection.

In evaluating these measures, the same procedures as outlined in A-1 above will apply.

C. Independent Measures or Groups of Measures

Independent measures or interdependent groups of measures such as a group of floodwater-retarding structures functioning together as a unit, will be evaluated separately to determine the

relation between benefits and costs. These separate comparisons of benefits and costs shall be made for such subdivisions of the measures and such subdivision of the watershed, as are necessary to determine economic feasibility.

D. Floodwater Retarding Structures and Water Supply Reservoirs

Each individual structure or interdependent group of structures included in the watershed work plan must produce benefits in excess of total costs, and the benefits from each purpose, such as flood prevention and irrigation, justify the added costs of its inclusion in the structure or group of structures.

Where there is no increase in storage costs of providing any of the uses in addition to the primary use, the benefits from all uses may be lumped and equated against all costs in the economic analysis if such benefits are used in allocating costs. For example, the pool provided below the ungated outlet in a single-purpose flood prevention structure may be used for other purposes such as stockwater, irrigation, or recreation. It may also be possible to use the floodwater detention capacity during the part of the year when floods are not apt to occur.

In the economic analysis of structures which provide capacity for and are designed to serve multiple-purposes, the benefits from each separable purpose, such as flood prevention, irrigation, municipal or industrial water supply, recreation, and fish and wildlife, must justify the costs of its inclusion in the structure. Any one of the purposes may be selected as the first increment for analysis.

E. Evaluation of Non-Agricultural Water-Management Benefits

Benefits from non-agricultural water storage are usually considered to be at least equal to the cost of the cheapest alternative source of equivalent supply or services of water. This may be the cost of a reservoir for the single purpose of water storage at the same site.

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F. Benefits Outside the Watershed

In determining the benefits from measures or groups of measures, an investigation will be made, wherever necessary and desirable, of the nature and extent of benefits that may accrue outside the watershed. If significant benefits will accrue outside the watershed, these benefits should be taken into account in economic justification, and for cost-sharing purposes.

G. Treatment of Costs in Project Justification

The cost of planning services, technical assistance for and application of land treatment measures for watershed protection and measures for which no Federal assistance in installation will be provided under the authority of the Act will not be included in the benefit-cost analysis.

All other monetary outlays made and goods and services contributed, including installation services by various interests for a project, such as the initial investment costs (installation costs), major replacements, and operation and maintenance costs shall be included in the benefit-cost analysis. Any induced costs, such as uncompensated adverse effects caused by construction or operation of the project, whether in goods or services, and measurable in monetary terms shall also be included in the benefit-cost analysis.

H. Benefits Evaluated in Monetary Terms

1. Benefits to be included in the benefit-cost analysis

The benefit-cost analysis of land treatment measures for flood prevention and structural measures for which Federal assistance will be made available shall be based on primary monetary benefits.

The following types of benefits will be included in the monetary benefit-cost analysis:

a. Reduction in direct and indirect damages from flood-water and sediment.

b. Increases in net income (gross less all associated costs) from changed use of property made possible as a result of reduction in the flood hazard.

c. On-site increases in net income from additional production or reduced production costs, on lands on which measures are installed.

d. Increase in net income from additional production, or reduced cost of production, of farm products as a result of drainage and irrigation.

e. Savings in the cost of water treatment resulting from the reduction of sediment in industrial, municipal, and domestic water supply.

f. Value of municipal and industrial water supply to be furnished by the project.

g. Increases in the value of recreation, fish and wildlife resources expected to result from storage capacity specifically incorporated into structures for the purpose of creating such values.

h. Other benefits which can be evaluated in monetary terms.

I. Benefits Not Evaluated in Monetary Terms

Certain benefits, such as prevention of loss of life and identifiable increases or gains in assets or values not measurable in monetary terms, whether in goods, services, or intangibles, may accrue as a result of the project. While these benefits will not be evaluated in monetary terms, they may, however, be described qualitatively and included as an argument for the proposed project in the work plan. When such benefits are considered in the determination of equitable cost-sharing arrangements for agricultural water management, their significance should be thoroughly explained.

J. Period to be Used in Project Justification, Prices and Interest Rates

To compute benefits and costs, the time period to be used shall be (1) a period of 50 years beyond the date on which benefits from the project, or separable parts thereof, will be available to the beneficiaries, or (2) the expected useful economic life of the project or separable parts thereof, whichever is less.

The evaluation period usually will begin at the completion of the installation stage. For example, if the installation period is 5 years, the evaluation period would extend from the 6th to the 56th year. In this example "instantaneous installation" is assumed as having taken place in the 5th year.

All benefits to be evaluated will be shown at their annual equivalent value after appropriate discounting for lag in accrual.

Inasmuch as most projects will be placed under construction at an early date after the economic analysis, prices current at the time of the analysis will be used for installation costs. Long-term projected prices will be used in evaluating all other costs, including operation and maintenance, and all benefits.

In Table 1, installation costs for all projects, regardless of project installation period, should be shown on the basis of price levels current at the time of work plan development.

The long-term price and cost projections to be used for individual commodities or groups of commodities and construction items, will be those contained in the currently applicable Economics Guide. The price levels used should be indicated in the narrative and on the individual tables. The specific price year will be shown in preference to the terminology "current prices."

The following interest rates will be used, unless or until modified by the Bureau of the Budget, for discounting and computing average annual equivalent values for benefit-cost estimates: Federal and non-Federal public and private costs eligible for credit assistance under Sec. 8 of the Act - $2\frac{1}{2}\%$; other non-Federal public and private - the long-term borrowing rate likely to be paid by these groups but not less than the Federal rate.

V. ALLOCATION OF COSTS

The Act provides that an allocation of costs to the various purposes be made and that the basis of such allocations be shown. Where a single work of improvement is planned to serve more than one purpose, an allocation of costs to each of the purposes shall be made and the method or basis of such allocations shall be described and shown in Section 2 of the watershed work plan. Section 7, paragraph IV describes general criteria for cost allocation.

In order that the costs of multiple-purpose structural measures be shared in accordance with the requirements of the Act and Departmental policy, such costs shall be allocated to purposes served as follows:

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1. Flood prevention
2. Agricultural water management
3. Non-agricultural water management

A. Multiple-purpose Structural Measures

The cost of multiple-purpose structural measures will be allocated in such a manner that each purpose will share equitably in the savings resulting from combining the two or more purposes in such measures. In most cases the acceptable method for making this allocation will be the Separable Costs-Remaining Benefits Method. Modifications of this method will be acceptable where the necessary basic data are not available and the time and expense required to obtain the data are not warranted.

B. The Separable Costs-Remaining Benefits Method

The Separable Costs-Remaining Benefits Method involves the following determinations:

1. The benefits of each purpose.
2. The alternate cost for any purpose is the cost of a single-purpose measure that will produce the same benefits. This may be the cost of the designated purpose when computed as the first increment in the multiple-purpose structural measure.
3. The separable cost of each purpose.
4. The remaining benefit is the difference between the separable cost of each purpose in the multiple-purpose structural measure and its benefit or alternate cost whichever is less.
5. Joint cost is the difference between the sum of the separable costs and the total cost of the multiple-purpose structural measure.
6. Joint cost is allocated to each purpose in direct proportion to the remaining benefits.

7. The cost allocated to each purpose equals the sum of its separable and allocated joint costs.

Where multiple-purpose structural measures involve no separable cost assignable to the several purposes served, allocation of costs by this method will give the same result as that obtained by apportioning costs in proportion to benefits.

C. Allocating Costs to Flood Prevention and Drainage

1. Cost allocation for flood prevention and drainage channels when benefits are not separable.

Where it is established that floodwater and drainage problems exist on the same lands within a watershed, it will be necessary, for cost-sharing determinations, to allocate the cost of the planned channel improvement to drainage and flood prevention. Under this condition, the steps required for allocating costs are:

a. First alternative

(1) Estimate the cost of a channel for drainage on the basis of the applicable drainage coefficient in consideration of climate, topography, land use and soils for the area of wet land to be drained.

(2) Estimate the cost of a flood prevention channel based on the capacity to handle the peak flow expected from the design storm.

(3) Design and estimate the cost of a multiple-purpose channel which will produce the same benefits as the single-purpose channels in (1) and (2). This may be the same channel as the channel in (2).

(4) Estimate the cost allocated to drainage by dividing the cost determined in (1) by the sum of the costs determined in (1) and (2) and multiplying by the cost determined in (3).

(5) Estimate the cost allocated to flood prevention by subtracting the cost allocated to drainage determined in (4) from the multiple-purpose cost determined in (3).

b. Second alternative

(1) Design and estimate the cost of the multiple-purpose channel.

(2) Determine the damage reduction benefits that would accrue if the channel were designed for flood prevention alone.

(3) Determine the total benefits that will accrue to the multiple-purpose channel.

(4) Deduct the damage reduction benefits from total benefits, (3)-(2), to determine the joint benefits from more intensive use of land (land enhancement).

(5) Allocate the total cost of the multiple-purpose channel to land enhancement and flood damage reduction in the ratio of the benefits determined in (2) and (4).

(6) Allocate 50 percent of the joint land enhancement costs found in (5) to flood prevention and the remainder to drainage (A-47 principle).

(7) The total flood prevention cost is equal to the cost allocated to damage reduction plus 50 percent of the cost allocated to land enhancement.

2. Allocating the Cost of a Part of a Channel System Serving a Single Purpose.

The steps outlined in 1 above will not necessarily be involved for all channels included in a project planned for flood prevention and drainage. For example:

a. That portion of the channel improvement works which extends above the wet land area would be allocated to flood prevention.

b. The cost of main drainage ditches and group laterals which are not required or designed to carry outside water will be allocated to drainage.

VI. EVALUATION OF SECONDARY BENEFITS

A. General Principles

Secondary benefits will not be used for economic justification but may be used for establishing equitable cost-sharing arrangements. The evaluation of secondary benefits resulting from the installation of measures for agricultural water management will be necessary in determining cost-sharing for such measures. Installation of these measures will usually result in increases in income to processors of agricultural products, to business establishments in towns and trade areas affected, and to individuals other than the direct identifiable beneficiaries.

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Basically, secondary benefits constitute the net increase in value of goods and services in secondary activities stemming from or induced by the agricultural water management phase of a project. Secondary benefits may, therefore, be measured as the difference in net income from secondary activities with and without the project.

B. Specific Evaluation Procedures

In evaluating the secondary benefits attributable to agricultural water management, the following factors shall be applied:

1. Five percent of the net increase in the sale of farm products that are consumed locally without processing.
2. The following factors to the increase in sales of farm products for local and non-local processing and marketing: 1/

Cotton - 83 percent

Grain (wheat, oats, corn, barley, grain sorghum)- 48 percent

Oil crops (flax, cottonseed, soybeans) - 30 percent

Sugar beets - 26 percent

Fruits and vegetables - 24 percent

Dry beans - 23 percent

Rice - 13 percent

Seed crops - 10 percent

3. Eighteen percent of all increased farm production expenses (associated costs for agricultural water management).

VII. CRITERIA CONTAINED IN BUREAU OF THE BUDGET CIRCULAR A-47

Any criteria relating to benefit-cost determinations contained in Bureau of the Budget Circular A-47, and not covered here, or not contrary to the Act, applies to work plan preparation under the Act.

1/ As an alternate to steps 1 and 2 above, the total secondary benefits may be obtained by applying the following percentages to the increase in value of production of these crops: Fruit and vegetables, 22 percent; Hay, 8 percent; Pasture, 8 percent; and Feed Grains, 21 percent.

VIII. DEFINITIONS

A. Associated Costs: The value of the goods and services needed, over and above the costs of structural measures and land treatment measures for flood prevention to make the immediate products of the project available for use or sale.

B. Induced Costs: All uncompensated adverse effects caused by construction or operation of a program or project, whether in goods, services, or intangibles, and whether measurable in monetary or non-monetary terms.

C. Benefits: All identifiable increases or gains in assets or values, whether in goods, services, or intangibles, whether primary or secondary, and whether measurable in monetary or non-monetary terms which, taking account of conditions with and without the project, are properly creditable to the project, and which are net of all associated costs.

D. Primary Benefits: The value of immediate products or services resulting from the structural measures and the land treatment measures for flood prevention. Primary benefits of flood prevention may be either direct or indirect. Direct benefits arise from the reduction in damages resulting from the immediate action of floodwater and sediment. Indirect benefits are remaining primary benefits arising from reductions in indirect flood losses, such as costs of rerouting traffic, relief, rehabilitation, and care and protection of property.

E. Secondary Benefits: The values added over and above the value of the immediate products or services as a result of activities stemming from or induced by the agricultural water management phase of a project accruing to the processors or handlers of goods produced or used in this phase. Such benefits are not to be used in the benefit-cost determination but may be considered for cost-sharing purposes. (Section 7)

WATERSHED PROTECTION HANDBOOK

SECTION 7

COST-SHARING CRITERIA

I. REQUIREMENTS

The Act provides that local organizations shall "assume (A) such proportionate share, as is determined by the Secretary to be equitable in consideration of the direct identifiable benefits, of the costs of installing any works of improvement, involving Federal assistance, which is applicable to the agricultural phases of the conservation, development, utilization, and disposal of water, and (B) all of the cost of installing any portion of such works applicable to other purposes except that any part of the construction cost (including engineering costs) applicable to flood prevention and features relating thereto shall be borne by the Federal Government and paid for by the Secretary out of funds appropriated for the purposes of this Act."

Executive Order 10584 (Section 27--2(e)) gives the Secretary responsibility for "Establishing...criteria for the sharing of the cost of both structural and land treatment measures which conform with policies established by or at the direction of the President for watershed protection, flood control, irrigation, drainage, water supply and related water resource development purposes."

The policy of the Secretary of Agriculture states: "Funds available under authority of the Act will be provided only for works of improvement producing direct measurable benefits to groups of landowners, to communities, and to the general public."

"Federal assistance for land treatment measures on land not in Federal ownership shall be limited to technical assistance required to complete the planning and application of such measures during the scheduled period for completion of the project supplemental to other program activities except that for the following measures, when their benefits are determined to be primarily but not exclusively for flood prevention and in excess of their costs, the installation costs may be paid for in part out of appropriations made under authority of the Act and, in accordance with Section 3(4) of the Act, at rates not to exceed those for similar practices under existing national programs: (1) fire prevention and control, (2) critical area stabilization primarily by vegetative practices, (3) minor gully and channel stabilization measures, and (4) special purpose terraces and other on-farm measures used in lieu of downstream flood prevention structures.***

"On Federal lands the land treatment measures will be installed, operated and maintained by the agency administering such land. Funds available under the authority of the Act may be used to install, and to

operate and maintain during the project installation period, land treatment measures on Federal lands only to the extent necessary to complete the application of such needed measures provided for in approved work plans during the scheduled period for completion of the project.***

"It is the policy of the Department that the local organization will assume that part of the installation cost of structural works of improvement allocated to the agricultural phases of the conservation, development, utilization, and disposal of water which is equal to the ratio of direct identifiable benefits to total benefits produced by such works of improvement. The local organization will not be required to assume any part of the construction cost or cost of engineering services for structural works of improvement allocated to flood prevention. The local organization will be required to assume all installation costs, including engineering services costs, for purposes other than flood prevention, and the agricultural phases of the conservation, development, utilization, and disposal of water. Where a single work of improvement is planned to serve more than one purpose, an allocation of costs to each of the purposes shall be made, and the local organization shall bear its share of the costs allocated to each purpose in accordance with the foregoing criteria.

"If the costs allocated to the local organization for the agricultural phases of the conservation, development, utilization, and disposal of water on the basis of direct identifiable monetary benefits appear inequitable in consideration of intangible or other public non-measurable benefits, such benefits will be taken into account in reaching agreements on cost-sharing, but in no event will the Federal share of the cost exceed the equivalent Federal assistance available for other similar project-type programs. Direct identifiable benefits are those benefits accruing to individuals or organizations that would normally be required to pay special assessments or taxes for such benefits."

II. DEFINITIONS OF COSTS

A. Program Cost

Program cost includes all expenditures from appropriations made under authority of the Act.

B. Cost of Planning Services

The cost of planning services includes all expenditures from appropriations made under authority of the Act for (1) assistance and services provided for surveys and investigations and preparation of work plans prior to authorization of assistance in the installation of works of improvement and (2) collection and analysis of basic data and river basin coordination studies.

C. Project Installation Cost

Project installation cost includes all Federal and non-Federal costs, in cash or its equivalent, for installing the works of improvement included in a project.

1. Cost of land treatment measures

The cost of land treatment measures includes all Federal and non-Federal costs for planning and applying those measures included in a project.

a. Technical assistance

The cost of technical assistance includes all Federal and non-Federal costs for technical assistance provided to landowners and operators on non-Federal land for planning and applying land treatment measures on farms, ranches, and timberlands and for the technical services required for planning and applying such measures on Federal land.

b. Installation

The cost of installing land treatment measures includes all Federal and non-Federal costs for applying the land treatment measures included in a project.

2. Cost of structural measures

The cost of installing structural measures includes all Federal and non-Federal costs for installing the structural measures included in a project.

a. Installation services

(1) Engineering services

The cost of engineering services includes all direct Federal and non-Federal costs for the services of engineers and geologists used in designing and installing the structural measures, and includes the cost of necessary inspection, installation assistance, interpretation of plans and specifications, and similar services in carrying out contracts.

(2) Other installation services

The cost of other installation services includes all overhead costs for structural measures as well as direct costs for

installation services provided by other than engineers and geologists.

b. Administration of contracts

The cost of administration of contracts includes all costs of administrative, legal, and clerical services provided at no cost to the Federal Government by the contracting local organization for carrying out contracts.

c. Water rights

The cost of water rights includes the actual cost or the appraised value of water rights acquired by local interests for carrying out, operating, and maintaining the project.

d. Land, easements, and rights-of-way

The cost of land, easements, and rights-of-way includes the following costs:

(1) All expenditures made in acquiring land, easements, and rights-of-way or their value as estimated by the local organization with the concurrence of the Service.

(2) Removal of buildings, fences, or improvements for salvage or relocation.

(3) Changes of existing telephone, power, gas, water, and sewer lines or other public utilities.

(4) All new and changes of existing highway and road bridges and culverts, including approaches, except the reinforcing, underpinning or reconstruction of bridge piers and abutments necessitated by deepening the channel.

(5) All relocations and changes of highways and roads that are to remain serviceable after project installations.

(6) All railroad relocations except necessary bridge construction or alterations and approaches in connection therewith.

(7) Increases in the size of pumping plants and pressure conduits to carry interior drainage or sewage through dikes or flood walls at the request of the local organization.

(8) Increases in the size of diversion dikes and ditches for conducting surface water to project outlets or pumping plants for interior drainage at the request of the local organization.

(9) Additional costs resulting from changes of project works of improvement for the convenience of the local organization, such as locating structures at more expensive sites because of the inability of the local organization to obtain land, easements, and rights-of-way or altering a structure to permit its use as a roadway.

e. Construction cost

Construction cost is the contract or force account cost for constructing structural measures. It includes also the cost of:

(1) Reinforcing, underpinning, or reconstruction of highway and road bridge piers and abutments necessitated by deepening the channel.

(2) All railroad bridge construction or alterations and approaches in connection therewith.

(3) Clearing of sites for project purposes including the cost of removing buildings, fences, bridges, or other improvements which the local organization desires to abandon.

(4) Pumping plants and pressure conduits to carry interior drainage or sewage through dikes or flood walls.

(5) Diversion dikes and ditches for conducting surface water to project outlets or pumping plants for interior drainage.

III. CONSIDERATION OF COSTS

A. Land Treatment Costs

1. Explanation

a. Non-Federal lands

Financial assistance made available under the Agricultural Conservation Program for soil and water conservation practices is administered at the local level by elected committees in each county under rules and regulations prescribed by the Secretary of Agriculture within the framework of applicable Federal legislation and appropriations. Both the State Committee appointed by the Secretary and the elected county committees have considerable latitude in allocating available funds in accordance with conservation needs. The Service will encourage the allocation of funds in such a way as to provide timely financial assistance for land treatment measures included in work plans for watersheds approved for installation of works of improvement under the Act.

Additional technical assistance for planning and installation and cost-sharing assistance for installation of eligible land treatment measures will be provided from funds appropriated under the Act only to the extent required by lack of sufficient technical and cost-sharing assistance provided under other appropriations. The cost of such supplemental assistance cannot exceed the limitations for use of Public Law 566 funds for land treatment measures for watershed protection described in Section 5 of the handbook.

The need for any additional assistance will be determined and justified in the work plan on the following basis. It will be assumed that assistance available in the district(s), county(ies), or other geographical area(s) (1) will be continued in at least the same amount as in the fiscal year in which the work plan is completed, (2) will serve a proportional number of farms and ranches, or other operating units, within and outside the watershed boundaries. If the amount of assistance thus expected to be available within the watershed is insufficient to provide required assistance in the installation of remaining eligible land treatment measures within the agreed upon period for project installation, additional assistance may be provided as needed to overcome this deficiency.

This supplementary assistance will be provided during the period of project installation so that the orderly application of eligible land treatment measures will be accomplished.

Increases or reductions in funds for assistance from other programs may be reflected in amendments to the work plan increasing or decreasing assistance from funds appropriated under authority of the Act.

Costs of providing supplementary assistance are considered Federal costs to be paid with funds provided under authority of the Act. Installation costs to landowners and operators, including financial assistance provided under ACP, or other cost-sharing assistance, are considered as other costs. Costs of providing technical assistance for installation of land treatment measures from appropriations made under authority other than the Act are also considered as other costs of a project.

b. Federal lands

The need for any additional funds from appropriations made under authority of the Act for installation of eligible land treatment measures on Federal lands will be determined and justified in the work plan on the following basis. It will be assumed that funds available in the unit(s) of Federal land administration for planning and installation of eligible land treatment measures (1) will be continued

in at least the same amount as in the fiscal year in which the work plan is completed, and (2) will be allocated proportionately to installation of land treatment measures within and outside the watershed boundaries. If the amount of funds thus expected to be available for this purpose within the watershed is insufficient to provide for the installation of remaining eligible land treatment measures within the agreed upon period for project installation, additional funds needed to overcome this deficiency may be provided from appropriations made under authority of the Act, but not in excess of the limitations for land treatment measures for watershed protection described in Section 5 of the handbook.

This supplementary cost of installation may be scheduled for use in those years during the period of project installation which would be most advantageous.

Increases or reductions in funds available from other programs may be reflected in amendments to the work plan increasing or decreasing installation costs from funds appropriated under authority of the Act.

Costs for operation and maintenance of land treatment measures during the period of installation to be paid from funds appropriated under the Act are considered as Federal installation costs. All installation costs not to be borne from appropriations made under authority of the Act are considered as other costs of the project.

2. Sharing of land treatment costs

a. Non-Federal lands

(1) Technical assistance for the planning and installation of land treatment measures may be provided at Federal expense.

(2) Federal financial assistance will be provided for installing land treatment measures for flood prevention from funds available from appropriations made under the authority of the Act for fire prevention and control, critical area stabilization, minor gully and channel stabilization and on-farm measures in lieu of downstream flood prevention structures at rates not to exceed those available under other authorities.

(3) The cost of installing eligible land treatment measures for watershed protection will be borne entirely from non-Federal funds except for any cost-sharing assistance that may be available at the time of installation under the Agricultural Conservation Program, the Soil Bank, or other Federal Acts.

b. Federal lands

(1) Federal land administering agencies may plan and install eligible land treatment measures at Federal expense consistent with current national policies for installing similar measures on land not included in watershed projects.

(2) Non-Federal users of Federal land will be expected to bear that part of the cost of installing eligible land treatment measures which current policies of land managing agencies require for installing similar measures on land not included in watershed projects.

B. Costs for Structural Measures

1. Explanation

Costs for structural measures are all costs and values related to the installation, operation and maintenance of improvements for flood prevention or the conservation, development, utilization, and disposal of water.

a. Initial installation costs

(1) Cash payments or expenditures

Included are all disbursements on behalf of the project by Federal agencies, States, local organizations, other agencies, groups and individuals. Transfers, reimbursements, donations, tax receipts and all other cash items are considered as costs for structural measures. The Federal share of the cost shall be exclusively that coming from appropriations made under authority of Public Law 566. Other costs shall include costs incurred by States, local organizations, other agencies, groups, and individuals, including any funds that may be provided under other Federal programs to assist these agencies, groups, or individuals to meet their responsibilities for installing the project.

(2) Value of labor and services

Included are all Federal or non-Federal, voluntary or paid technical, administrative, or legal services used in engineering, design, layout, administration of contracts, and supervision of construction and the value of labor at prevailing local rates contributed by landowners or others to the installation of structural measures. The services or labor must be provided directly for the primary purposes of the structural measures, and will not include such services as those of district supervisors or other organization leaders spent at regularly scheduled meetings of such organizations.

(3) Equipment rental value

The rental value of all equipment (including passenger vehicles) provided for direct use in carrying out the structural measures may be estimated at prevailing local rental rates.

(4) Value of materials and supplies

The value of all materials and supplies furnished will be charged at their cost or fair market value.

(5) Any cost or value of expenditures for public health, recreation, fish and wildlife and mineral resources

Any expenditures made for preventing damage or losses to or improvement of these resources are included as a cost for structural measures.

b. Operation, maintenance and replacement costs

The costs for operating, maintaining, and replacing structural measures include all costs after installation necessary to realize the estimated benefits during the evaluation period.

2. Sharing of costs for structural measures

a. The non-Federal share of the costs for structural measures must include the value or cost of (1) land, easements, and rights-of-way on non-Federal lands, (2) water rights, (3) that part of the cost of installing structural measures allocated to non-agricultural water management, (4) that part of the cost of installing structural measures allocated to agricultural water management based on the relationship of direct identifiable benefits to total benefits but in no event less than a share of the cost equivalent to what would be required by the Federal Government for other similar project-type programs, (5) the cost of administering contracts and (6) operation and maintenance of measures on non-Federal land and of measures other than land treatment on Federal land to the extent that benefits accrue to non-Federal beneficiaries.

b. The Federal share of costs for flood prevention purposes must include all installation costs except the cost or value of land, easements, and rights-of-way on non-Federal lands, water rights, and the cost of administering contracts.

c. The Federal share of the installation costs for agricultural water management may include all costs allocable to other than direct identifiable beneficiaries, but not in excess of the equivalent Federal assistance available for other similar project-type programs.

IV. BENEFITS OF STRUCTURAL MEASURES

Benefits will be grouped into three classes according to purpose for cost-sharing, namely: (1) flood prevention; (2) agricultural water management; and (3) non-agricultural water management.

The installation cost of structural measures planned, designed and operated to serve a single purpose and economically justified on the basis of single-purpose benefits will be allocated entirely to that purpose.

The installation cost of structural measures planned, designed and operated to serve more than one purpose (multiple purpose) will be allocated to the several purposes served so that each purpose will share equitably in the joint savings resulting from multiple use.

Assessment of benefits and apportionment, if any, of costs to the specific local beneficiaries will be the responsibility of the local organization. The Federal Government will be concerned only with properly allocating costs on the basis of purpose and kinds of benefits.

A. Flood Prevention

Flood prevention benefits are those stemming from the prevention or reduction of losses and the associated increased production of lands that accrue incidentally from the prevention of losses. They stem from the protection and maintenance of a present or restoration of a former state of resource development and use through the elimination or reduction of excessive runoff and flood flows, soil erosion, and sediment production which now interfere with the efficient use of the land or water resource involved. They include reductions of reservoir sedimentation and floodwater and sediment damage to crops, pastures and other agricultural property; reduction of damage to land, urban property, public utilities, railroads, pipelines and highways; restoration of former productivity of land; and incidental changed or more intensive use of land.

Such benefits result from protection against the effects of climatic events which occur irregularly and the specific dating of which cannot be forecast.

Estimation of expected future losses and benefits are based on probabilities derived from past experience.

B. Agricultural Water Management

Agricultural water management benefits are those stemming from the development and improvement of land and water resources by such measures as drainage and irrigation to increase their agricultural productiveness and yield. They do not include incidental increased production resulting from installation of flood prevention measures.

Agricultural water management benefits consist primarily of predictable increases in annual agricultural income resulting from improved or more efficient use of natural resources. They include (1) those drainage benefits resulting from the removal of excess water in areas where under normal conditions such water limits agricultural production; (2) those irrigation and other agricultural water management benefits resulting from the conservation, development or increased utilization of agricultural water supplies by such means as reservoirs, wells and pumping plants, new or improved distribution systems, ground water recharge, phreatophyte control, prevention of saline water intrusion and stabilization of stream flow.

In general, these benefits are of the type that will support amortization of loans for improvements because of the collateral value of and the regular income stemming from such improvements.

C. Non-Agricultural Water Management

Non-agricultural water management benefits are those stemming from the improvement, development, or utilization of water supplies for non-agricultural purposes. They include those arising from the development of municipal or industrial water supplies, pollution abatement, prevention of salt water intrusion, control of low water stream flow and enhancement of wildlife and recreational opportunities.

When these benefits are used for project justification or cost allocation, they will be evaluated in accordance with the provisions of Section 6 of the handbook.

V. CLASSIFICATION OF BENEFICIARIES FROM AGRICULTURAL WATER MANAGEMENT MEASURES

Beneficiaries of agricultural water management measures are divided into two classes: (1) direct identifiable beneficiaries and (2) other beneficiaries.

A. Direct Identifiable Beneficiaries

Direct identifiable beneficiaries of agricultural water management include owners or operators of land within or outside the project area who are directly benefited in an immediate and substantial way and who can be legally taxed or otherwise assessed for project services.

Direct identifiable beneficiaries of a drainage improvement are landowners and operators who are benefited by and can be assessed for project facilities for the removal of excess water, thus permitting more intensive, more frequent or more profitable use of the land.

Direct identifiable beneficiaries of an irrigation improvement are all water users who are directly supplied and who can be assessed for the new, additional or more dependable water supply or water for the first time as a result of the improvement.

Direct identifiable beneficiaries of other types of agricultural water management improvements include those who directly benefit from a community agricultural water facility such as a stream diversion, impoundment or well for livestock and domestic use or orchard and crop spraying. They also include owners and operators within or outside of the project area directly benefiting from phreatophyte control, ground water recharge, pollution abatement, prevention of salt water intrusion, or stabilization of streamflow for the primary purpose of improving or increasing agricultural water supplies.

B. Other Beneficiaries

Other beneficiaries of agricultural water management include all beneficiaries not meeting all of the criteria for direct identifiable beneficiaries. Other beneficiaries include all community beneficiaries such as:

1. Federal or non-Federal public beneficiaries
2. Beneficiaries receiving only incidental benefits within or outside of the project area
3. All beneficiaries receiving secondary benefits

Such beneficiaries are non-assessable, widely dispersed and otherwise unidentifiable or receive such small benefits that it is impractical to assess them for benefits received.

VI. APPLICATION OF COST-SHARING REQUIREMENTS

Work plan tables 9, 9A, and 9B will summarize the cost-sharing provisions and may be used as a basis for discussing cost-sharing with the local organization. Additional tables, bar charts or other similar aids

that may facilitate an understanding of cost-sharing by the local organization need not be included in the work plan.

A. Classification of Agricultural Water Management Benefits

Benefits of agricultural water management will be determined and shown in work plan table 9B in accordance with the definitions of classes of beneficiaries, paragraph V of this section.

B. Allocation of Installation Costs

Installation costs will be determined and allocated by purpose in table 9A, step A, in accordance with the principles set forth in paragraph IV of this section and paragraph V, section 6.

Installation costs will be allocated by purpose to non-Federal funds as follows:

1. For flood prevention, only those required non-Federal costs such as land, easements and rights-of-way, water rights and cost of administering contracts;
2. For agricultural water management, that part of the installation cost which is equal to the ratio of direct identifiable benefits to total benefits.
3. For non-agricultural water management, all installation costs, including installation services.

C. Consideration of Intangible Benefits from Agricultural Water Management

The Administrator has been assigned responsibility for establishing criteria for determining equitable cost-sharing for installation costs for agricultural water management in consideration of the ratio of direct identifiable benefits to total benefits. Total benefits include, in addition to benefits susceptible of monetary evaluation, intangible benefits or benefits not readily evaluable, such as improvement of the area, State, regional and national economy by such means as contributing toward an adequate water supply; prevention of water waste, reduction of pollution, equitable distribution of available water supplies and enhancement of soil, water, timber, wildlife, recreational and related resource values in terms of wise use of resources to meet the needs of an increasing population and an expanding economy.

The importance of these benefits should be carefully described, particularly if they constitute an important part of the total project benefits and are to be considered in appraising the equity of cost-sharing proposals according to the provisions of Section 4 of the handbook.

D. Summary of Cost-Sharing Provisions of Work Plan

Cost-sharing provisions of the work plan will be summarized in work plan table 9. The installation cost of structural measures for agricultural water management purposes will reflect the consideration given to intangible benefits.

VII. SUMMARY OF COST-SHARING REQUIREMENTS

A. Cost-sharing for each watershed project will be computed and negotiated consistent with policies established by the Secretary of Agriculture.

B. Cost-sharing for agricultural water management purposes in individual watershed projects will be based on the determination of the kinds and amounts of various benefits and the degree of their identification with local beneficiaries.

C. Local organizations or landowners and operators are required to bear the cost of:

1. Land, easements and rights-of-way on non-Federal land.
2. Necessary water rights.
3. The cost of installing structural measures allocated to non-agricultural water management.
4. That part of the cost of installing structural works of improvement for agricultural water management based on the relationship of direct identifiable benefits to total benefits, but in no event less than a share of the cost equivalent to what would be required by the Federal Government for other similar project-type programs.
5. Administration of contracts let by other than the Federal Government.
6. Operation and maintenance of works of improvement on non-Federal land and works of improvement other than land-treatment measures on Federal land to the extent that benefits accrue to non-Federal beneficiaries.
7. Installation of land treatment measures on non-Federal land except as noted in paragraph VII, D, 3 below.

D. The Federal Government may bear from appropriations made under authority of the Act the cost of:

1. Technical assistance.
2. Installation of eligible flood prevention land treatment measures not exceeding the rate of cost-sharing assistance available under other national programs.
3. Installation of land treatment measures on Federal land, including operation and maintenance during the installation period.
4. That part of the installation cost of structural works of improvement for agricultural water management which is allocated to other than direct identifiable benefits, but not in excess of the equivalent Federal assistance available for other similar project-type programs.

E. The Federal Government must bear:

1. The entire cost of installing structural measures for flood prevention and features related thereto, except the cost or value of land, easements, and rights-of-way on non-Federal lands, water rights, and the cost of administering contracts.

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SECTION 8

COORDINATION WITH RIVER BASIN PROGRAMS AND PROJECTS OF OTHER AGENCIES

I. GENERAL REQUIREMENTS

Section 6 of the Act provides specific authority for the Secretary of Agriculture, in cooperation with other Federal agencies and with States and local agencies, to make investigations and surveys of the watersheds of rivers and other waterways. The authority may be utilized as the basis for participation in such activities cooperatively initiated with other agencies or initiated by other agencies.

Participation in any such investigations and surveys will be undertaken only after appropriate understandings have been reached in Washington, through the facilities of the Inter-Agency Committee on Water Resources or otherwise, with representatives of other Departments or agencies or of State agencies that may be concerned as to the objectives, nature and scope of the investigation and survey; after determination of the kind and extent of participation by this Department and methods of financing; and after the field has been advised of its responsibilities in these regards.

Department policy calls for work undertaken and performed under the provisions of the Act to be to the fullest possible extent in harmony with the related work of other Federal, State, and local agencies.

Executive Order 10584 provides that the Secretary of Agriculture may transmit plans for installation of works of improvement to the Congress through the President only if he is satisfied that such works constitute needed and harmonious elements in the comprehensive development of the river sub-basin or river basin involved.

In the watershed of a river basin or sub-basin where an investigation and survey of the water and related land resources has not been made or where an investigation and survey of the water and related land resources in which this Department participated under other authority has been completed and upon which a report has been made that is not mutually acceptable to this Department and other concerned Federal agencies, it shall be determined that the works of improvement constitute needed and harmonious elements in a logical comprehensive development of the river basin or sub-basin in which the small watershed is located. This will be a judgment determination based upon available data and general information about the basin or sub-basin involved.

In the watershed of a river basin or sub-basin where an investigation and survey is undertaken and participated in by this Department under the provisions of Section 6 of the Act and a report thereon is

made that is mutually acceptable to this Department and other concerned Federal agencies, the Service will assist the sponsoring local organization(s) in developing watershed work plans that are harmonious elements with the coordinated plan presented in the report. However, the Act does not require such investigations and surveys to be undertaken for the sole purpose of satisfying the requirements of Department policy and Executive Order 10584 for any specific watershed for which a plan for works of improvement is prepared.

In the watershed of a river basin or sub-basin where an investigation and survey of the water and related land resources in which this Department participated under other authority has been completed, and that is mutually acceptable to this Department and other concerned Federal agencies, the Service will assist the sponsoring local organization(s) in developing watershed work plans that are harmonious elements with the coordinated plan presented in the report.

II. PLANNING CRITERIA

During the initial stage of planning in each watershed the probable relation of potential works of improvement to programs or projects completed, authorized or proposed by other agencies should be considered. Information relative to the type and status of such programs or projects may be obtained through general knowledge of the area, through contacts with field offices of other agencies, from project reports or from reports of river basin inter-agency committees where such reports have been prepared.

Initial consideration with representatives of other agencies will reveal in many watersheds that there is little or no significant relationship between any potential works of improvement in the watershed and the programs or projects of other agencies. Where this is clearly the case then no further detailed consideration need be given to the programs or projects of other agencies during the preparation of the watershed work plan.

Such initial consideration in some watersheds will show that there may be substantial physical or economic relationship between measures which might be included in the work plan and the programs or projects of other agencies. In these cases detailed consideration of such programs or projects will be required in the formulation of the plan for the watershed. The status of the programs or projects of other agencies will largely govern the type and intensity of consideration to be given to them in the formulation of a watershed plan, as follows:

1. Where a program or project of another agency has been completed, initiated, or money (other than planning funds) has been appropriated for

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its construction, the program or project generally will be considered to be in place and functioning for the purpose of formulating the watershed plan. Exceptions to this may be where the agency responsible for such a program or project expresses a desire to enter into a cooperative study to determine desirable modifications of design or operation which might result from the installation of a watershed project, or as a result of actions of a river basin inter-agency committee, the Inter-Agency Committee on Water Resources, the State, or through a directive from higher authority.

2. Where a program or project of another agency has been initiated but it is apparent that it will not be completed for a long period of time, interim conditions during the period between the expected completion date of the watershed project and the expected completion date of the other agency's program or project should be considered in the formulation and analysis of the watershed plan.

3. Where a program or project of another agency has been authorized but no money (other than planning funds) has been appropriated for its construction, information will be obtained on which to base a judgment as to the probable time the program or project will be completed. If it appears likely from the information that funds for initiation of construction will be appropriated soon, the program or project will be considered to be in place and functioning for the purpose of formulating the watershed plan. If the program or project is on an inactive list of the other agency and it appears unlikely that it will be carried out, it need not be considered in the formulation of the watershed plan. If it appears that initiation of the program or project will be delayed for a considerable period of time but that it will be initiated eventually, the other agency should be invited to cooperate in working out a coordinated plan. If the other agency declines to enter into such a cooperative effort, interim conditions during the period between the expected completion date of the watershed project and the expected completion date of the other agency's program or project may be considered in the formulation and analysis of the watershed plan.

4. Where a program or project proposed or recommended by another agency is economically justified or appears on the basis of intangible values to be likely to gain Congressional approval, but is not yet authorized, the procedure outlined in paragraph 3 above will be followed.

5. Where programs or projects of other agencies have been authorized for surveys or investigations, or have been investigated and found not feasible or practicable, they need not be considered in formulating the watershed plan.

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Department representatives on river basin inter-agency committees are available, in the areas where such committees have been established, for assistance and consultation on the subject matter of this section when called upon by the State Conservationist.

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SECTION 9

COLLECTION AND ANALYSIS OF BASIC DATA

I. GENERAL REQUIREMENTS

Executive Order No. 10584 states, "In the utilization of existing basic physical and economic data, and in the acquisition of additional basic data required for planning, design, construction, operation and evaluation of works of improvement authorized under the Act, the Department of Agriculture shall be assisted by the principal basic-data collection agencies, including the Geological Survey in the Department of the Interior and the Weather Bureau in the Department of Commerce. The basic-data collection agencies shall assist and cooperate with the Department of Agriculture with respect to the following:

(a) Provision of pertinent information in the preliminary planning of works of improvement.

(b) Collaboration in planning programs of hydrologic data collection in project areas, in the selection of station sites and installation of equipment for collecting hydrologic data, and in the collection of such data.

(c) Collaboration in the analysis and interpretation of hydrologic data collected specifically for projects initiated under the Act, and of relevant data which may contribute to an analysis of the effects of such projects."

The policy of the Secretary of Agriculture states: "In the preparation and execution of plans for works of improvement, fullest utilization is to be made of all available basic data pertinent to such works including geodetic, climatic, hydrologic, topographic, geologic, soils, land use and vegetal cover conditions. Such data will be utilized where applicable from whatever source it is available."

The policy also states: "All appropriate agencies of the Department of Agriculture, and it is expected all State agencies, will make available to local organizations to the fullest practicable extent and commensurate with their regular responsibilities such technical assistance and information as may be necessary to development of work plans, installation of works of improvement, and application of land treatment measures."

The Service will initiate studies, make investigations, and collect and analyze data in selected watersheds where such information is

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pertinent to and essential for the planning of watersheds in the general area upon which applications for planning have been received under provisions of the Act. This will not preclude the collection of supporting data necessary to the planning of a specific watershed. The latter type of information would not be considered a special study but would be in the same category as engineering surveys and the collection of hydrologic, economic, and geologic information, and would be obtained in connection with regular planning operations.

In carrying out the Service's obligation to furnish technical assistance and information necessary for development of work plans, installation of works of improvement, and application of land treatment measures, the following studies, investigations, and collection of basic data may be initiated and carried out:

1. Inventory of physical and economic watershed conditions, including erosion, plant cover, soil, sedimentation, hydrologic and geologic conditions, and existing land treatment and structural measures.
2. Determination of the effects of various combinations of watershed conditions on the hydrologic, erosion, and sedimentation characteristics and the economic significance of each.
3. Establishment of measuring devices in selected watersheds in cooperation with the Weather Bureau, the U. S. Geological Survey, and others, to collect data as required for items 1 and 2 above.
4. Interpret, analyze and put in usable report form the information obtained as a result of the studies and data collection. Such information will be used for planning purposes on watersheds where applicable.

II. PROCEDURES

A. Review of Needs

The State Conservationist, with the assistance of the Engineering and Watershed Planning Unit, should review periodically the basic data and information being used in work plan development on watersheds in each general problem area in the State. These reviews will be for the purpose of determining the adequacy of basic data and planning information for watersheds on which applications for planning assistance have been received, to meet Service technical standards as contained in Soil Conservation Service technical handbooks. In addition, the State Conservationist should review the needs for basic data with other agencies participating in the development of watershed work plans. As a result of the reviews, requests may be made to the Administrator for approval to initiate studies,

obtain information, or collect basic data essential for planning and installing watershed projects consistent with good agricultural, engineering, and economic standards.

B. Special Studies

1. Request for Special Studies

The request for approval to initiate special studies for securing additional information needed for watershed planning and for installation of measures should be accompanied by a summarized statement (3 or 4 pages) giving pertinent information such as:

- a. Location and size of watershed or area.
- b. Need, type, and magnitude of study to be undertaken.
- c. Expected results to be obtained.
- d. Cost of the studies.
- e. Facilities for carrying out the studies including proposed assistance to be provided by other agencies.

This summarized statement will provide a basis for coordinating the studies of the various States on a national basis to prevent overlapping and duplication of effort.

2. Plan for Special Studies

If it seems feasible to proceed with the special studies and funds are available, the Administrator will advise the State Conservationist concerned to proceed with the preparation of a detailed plan which will be submitted to the Washington office for approval. The detailed plan should be reviewed and concurred in by the Engineering and Watershed Planning Unit before it is submitted to the Administrator by the State Conservationist. The initiation of the special studies will be contingent upon approval of the plan by the Administrator. This detailed plan is desirable from the standpoint of achieving as great a degree of uniformity and standardization of objectives, procedures, analysis, interpretation, and publication of information as a wide diversity of conditions will permit.

The detailed plan should describe the following:

- a. Scope.
- b. Objectives.

- c. Intended use of the results of the study.
- d. Study to be initiated including duration.
- e. Kind of data to be collected.
- f. Needed instrumentation.
- g. Method of collection of economic, hydrologic, sedimentation and other types of information.
- h. Provisions for collection, analysis, and interpretation of information and report preparation.
- i. Cooperation and assistance of other agencies.
- j. Costs and source of funds, including:
 - Installation cost, annual operation and maintenance cost, and total estimated cost for study by:
 - (1) Soil Conservation Service. (Total)
 - (2) Other. (By Agency)
 - (3) Transferred to other agencies by Soil Conservation Service. (By Agency)
 - (4) Total study.

3. Carrying Out Special Studies

a. Responsibilities.

The responsibilities for carrying out these special studies shall be as follows:

The State Conservationist is responsible for preparing the reports to the Administrator as discussed below. Upon approval of special studies by the Administrator the State Conservationist is responsible for the initiation of the studies, the collection, recording, analysis, interpretation, and the reporting of information. A report of progress on the studies should be made at the end of each fiscal year. To the extent possible, pertinent technical results of the studies should be included as part of the annual progress report. At five year intervals or at the end of the study project, a detailed technical report will be submitted including all pertinent data and results of the study.

The State Conservationist will look to the Head, Engineering and Watershed Planning Unit and the Washington Field Plant Technologists for assistance in preparing the special study reports and in the technical analysis and interpretation of data. The State Conservationist will designate a member of the State staff to be responsible for planning and coordinating the studies and for preparing the reports. This designated staff member shall make arrangements with (1) work unit personnel to furnish technical assistance, and to obtain and maintain records, and (2) the Head of the Engineering and Watershed Planning Unit and the Washington Field Plant Technologists for technical guidance in preparing the detailed plan and in the analysis and interpretation of data.

Technical assistance is also available from the Central Technical Unit at Beltsville for the analysis and interpretation of data collected as part of these studies. The State Conservationist can make arrangements for these services through the Engineering Division. These arrangements should be concluded prior to initiation of the project so that the responsible technician who will carry out the analyses in the technical unit, can participate in the planning stages and provide technical guidance relative to instrumentation and procedures for collection of basic data.

b. Funds.

Funds will be allocated for approved studies based upon cost estimates submitted by the State Conservationist in the detailed plan or revisions thereof.

c. Assistance of Other Departmental Agencies.

The special studies may require the collection, analysis, and interpretation of basic physical and economic data for use in planning watersheds upon which applications for planning have been received under the provisions of the Act. The services of other Departmental agencies, particularly the Agricultural Research Service, may be used to achieve the objectives of the studies. Field request for assistance by the State Conservationist should be transmitted to the Washington office through the appropriate Engineering and Watershed Planning Unit. The Washington office will arrange with Agricultural Research Service for personnel assignments as required, based on the detailed plan of investigations.

A Memorandum of Understanding between the Soil Conservation Service and the Agricultural Research Service, dated March 10, 1955, sets forth procedures for working arrangements, transfer of funds, and other details concerning Agricultural Research Service's assistance in connection with the economic investigations. (Handbook Sec. 24)

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The Forest Service will also participate in special studies where forest, associated range, and wild lands are included. The State Conservationist will make appropriate arrangements for the needed Forest Service participation and will provide for transfer of funds and other details through the Washington office.

d. Assistance of U. S. Geological Survey and the Weather Bureau.

The implementation of special studies may require the installation of rain gages, stream gages, and other instrumentation. The services of the data-gathering agencies should be used where necessary to achieve the objectives of the studies, including the collection, analysis, and interpretation of basic data. Several Memoranda of Understanding between the Soil Conservation Service, Weather Bureau, and the U. S. Geological Survey are already established.

(1) Memorandum of June 4, 1954, to State Conservationists and Heads of Engineering and Watershed Planning Units, Watershed Protection Program---cooperative agreements with U. S. Geological Survey with attachments.

Under this agreement and as applicable to the program under the Act, "The Soil Conservation Service will reimburse the Geological Survey for cost of instruments, constructions, installations, and services in accordance with previously or hereinafter agreed to amounts. The number of such instruments and the construction and services to be performed by the Survey and the amount to be paid by the Service shall be as mutually agreed upon between the State Conservationist of the Soil Conservation Service and the local District Supervisor of the Geological Survey."

"It is further understood that all property, structures, and materials contributed or paid for directly by the Soil Conservation Service shall remain the property of the Service unless mutual agreement is otherwise reached for the transfer of such property, structures, or materials to the Survey."

(2) Memorandum of Agreement with the Weather Bureau attached to Administrator's Memorandum of December 16, 1955, establishing unit costs for services and instruments to be provided by the Weather Bureau.

(3) The Weather Bureau has asked that all requests for instruments, services, forms, and inspection be consolidated by the

Washington office and referred to them. To comply with this arrangement, State Conservationists should refer to the Administrator all requests of this nature.

e. Assistance of Other Agencies.

Forest and Range Experiment Stations of the Forest Service and other Federal or State agencies should be invited to participate in studies when their experience or facilities will assist in carrying them out more effectively.

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SECTION 11

WORKS OF IMPROVEMENT ON LANDS
UNDER THE JURISDICTION OF FEDERAL AGENCIES

I. REQUIREMENTS OF THE ACT AND ADMINISTRATIVE REGULATIONS

The Secretary of Agriculture is authorized to obtain the cooperation and assistance of other Federal agencies in preparing and carrying out plans and in installing works of improvement on lands under their jurisdiction.

Executive Order 10584 provides that the Secretary of Agriculture is responsible for planning and installing works of improvement on lands under his jurisdiction and for arranging for the participation of other Federal agencies in the planning and installation of works of improvement on lands under their jurisdiction. It also provides that recommendations of the Secretary of the Interior for necessary work on lands under his jurisdiction shall be submitted as an integral part of the plans of the Department of Agriculture for works of improvement and that arrangements for construction, operation, and maintenance of works of improvement on lands under the jurisdiction of the Secretary of the Interior shall be mutually satisfactory to the Secretary of Agriculture and the Secretary of the Interior.

Department of Agriculture policy provides that the agency administering the lands will be responsible for installing, operating, and maintaining any land-treatment measures installed on Federal lands for flood prevention purposes; that funds available under the authority of the Act may be used to install land treatment measures on Federal lands only to the extent necessary to complete the application of such eligible measures provided for in approved work plans during the scheduled period for completion of any project; that the cost of installing other works of improvement on Federal land will be shared by the agency administering such land and the sponsoring local organization(s) in the same manner as if they were installed on non-Federal land; that the cost of operating and maintaining such other works of improvement will be shared in consideration of the estimated benefits that will accrue to Federal and non-Federal land; and that, after the installation period, the Federal share of the cost of operation, maintenance, and management of improvements on Federal lands shall be the responsibility of the Federal agency responsible for the management of such land, using funds available under authorities other than the Act. During the period of installation, funds made available under the Act may be used for operation and maintenance. After the installation period only funds available under other authorities than the Act may be used for those purposes.

II. RESPONSIBILITIES FOR PLANNING AND INSTALLING WORKS OF IMPROVEMENT

Plans for works of improvement will be prepared on a watershed basis and, where possible, will cover all lands within a watershed regardless of ownership. Work plans will provide for the installation of works of improvement on Federal lands as well as on other lands.

A. Planning

1. The State Conservationist is responsible for preparation of the work plan. On each watershed that includes land under the jurisdiction of Federal agencies, he will be responsible for arranging with the appropriate field representative of each Federal agency whose land is included in the watershed to assist in preparing the work plan. To the extent that such agencies do not have funds available for providing such assistance, they may be provided by the State Conservationist, under authority of section 601 of the Economy Act. If planning funds are not available to the State Conservationist, he may request additional planning funds for this purpose.

2. Works of improvement proposed for inclusion in a work plan that might be located on land under the jurisdiction of Federal agencies will be jointly considered by the State Conservationist, the representative of the agency responsible for the Federal land and the local organization. Structural works of improvement included in a work plan for installation on such land will be those that are mutually acceptable to the Federal agency responsible for administering the land, to the sponsoring local organization(s) to the extent that non-Federal interests may be involved, and to the Soil Conservation Service. Structural works of improvement that primarily benefit non-Federal land or substantially affect the size, number or cost of structures needed on non-Federal land will be planned by the Soil Conservation Service with the cooperation of the responsible land administering agency. The design of such structures will be mutually acceptable to the responsible land administering agency and Soil Conservation Service.

B. Installation

1. Works of improvement will be installed on Federal land by the agency responsible for the administration of the land where the primary benefit accrues to the Federal land. Structural measures installed on Federal land, but of primary benefit to private landowners, shall be installed under arrangements mutually agreeable to the sponsoring local organization, the land managing agency, and the Soil Conservation Service. Each of the parties will be responsible for its respective share of the installation, operation and maintenance costs.

2. The State Conservationist will be responsible for arranging with the designated field representative of each Federal agency the scheduling of installation of works of improvement on lands under its jurisdiction.

3. Under authority of Section 601 of the Economy Act of 1932, as amended (31 U.S.C. 686), funds will be made available to the Department of the Interior, by appropriation transfer, to cover its expenses as set forth in approved watershed work plans. In consideration of the funds to be made available under the appropriation transfer, the Department of the Interior will provide the Soil Conservation Service with reports of the fund expenditures in accordance with the procedures prescribed by General Regulation No. 125.

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SECTION 12

FARM AND RANCH PLANNING IN WATERSHED PROJECTS

I. GENERAL

A. The Service will coordinate structural measures in a watershed project with the planning and application of land treatment measures on individual farms and ranches. The planning and application of conservation measures should progress over all of a watershed as rapidly as resources permit, and should be of such intensity and scope as to give adequate protection to watershed lands and structural measures.

The technical and other assistance that can be supplied from appropriations made under the authority of the Act to carry out the planning and application of land treatment measures in connection with watershed projects is discussed in Sections 7 and 10. Assistance normally furnished in a watershed, under the assistance to district programs, should be continued at least at the current rate when a watershed project is approved. To the extent that such assistance is insufficient to carry out the planning and application of land treatment measures in accordance with the requirements of the watershed work plan, additional help may be supplied for this purpose with funds appropriated under P.L. 566.

B. Administrator's Memorandum SCS-23, dated April 15, 1954, contains Service policies on conservation farm and ranch planning. Those policies apply to all Service assistance in planning land treatment in connection with watershed projects. The techniques of planning used by farm and ranch planners in assisting local people are the same whether they are used in connection with a watershed project or not.

II. LAND TREATMENT PRIOR TO APPLICATION FOR PLANNING ASSISTANCE

Local groups desiring to sponsor a watershed project should understand that their application will receive more favorable consideration if they have first done a good job of planning and applying the needed land treatment measures. Most of the needed conservation work can be carried out with the normal Service assistance to districts without the necessity of preparing a formal application and work plan. When the land treatment needs of a watershed have been met, the works of improvement needed to meet the remaining needs can be more readily planned and installed.

III. LAND TREATMENT AFTER AUTHORIZATION FOR PLANNING ASSISTANCE

When planning assistance has been authorized by the Administrator, and it is reasonably certain that a watershed project will develop, the following actions should be taken in respect to farm and ranch conservation planning if they have not already been provided for:

A. Re-emphasize the land treatment needs of the watershed.

B. Identify the professional and lay leaders concerned with the watershed.

C. Arrange for contacts to be made with all local leaders who can help in developing and carrying out the work plan. The leaders should thoroughly understand the development of a plan and be able to explain it satisfactorily to others, including the reasons why it is necessary to carry out land treatment measures and other improvements.

D. Schedule conservation tours and other educational meetings to inform local people about the treatment needed on the watershed.

IV. LAND TREATMENT DURING PROJECT INSTALLATION

A. Through local leaders and sponsoring groups, farm or ranch conservation planning and application should be scheduled in consideration of increased technical and other assistance that is made available. These schedules should give high priority to measures needed to protect structural measures.

B. Through the local sponsoring groups, schedules should be developed to assure the availability of needed conservation planting materials.

C. Suitable research and other data, and local experience relating to costs of applying land treatment measures and the probable returns from them, should be collected and prepared for use. This information should be used freely in public informational programs. Such data should be supplied to local leaders for use in contacts with landowners and operators in the watershed.

D. Regular reports on progress, through the newspapers, radio and other means of public information, should be made.

E. Periodic meetings of sponsoring groups and local leaders should be held to appraise progress, discuss difficulties encountered and determine the best solutions to problems. Since this is the local people's project, they should be expected to take appropriate action to assure its success throughout all phases of planning, installation and maintenance.

F. Previously prepared conservation plans that do not adequately provide for accomplishing watershed objectives should be revised.

SECTION 13

CONTRACTING AND FORCE ACCOUNT PROCEDURES

I. CONTRACTS

A. General Statement

Under the Act, as amended, the local organization will contract for all works of improvement on non-Federal land. The Secretary of Agriculture is authorized to assist local organizations in developing plans, specifications, and preparation of contracts for construction of works of improvement. If the local organization decides not to retain or employ a professional engineer or if the Secretary determines that competent engineering services are not available he may contract for a competent engineer to provide such services or arrange for employees of the Federal Government to provide such services. The Secretary has assigned these functions to the Soil Conservation Service.

In cooperating with State and local agencies pursuant to carrying out the objectives of the Watershed Protection and Flood Prevention Act, it is necessary that designated rules, standards, and policies be followed. Especially are appropriate controls essential to protect the Federal Government's interest for in many instances it pays the entire construction cost, as well as engineering services. Accordingly, authorities and procedures set forth herein, together with those in the Administrative Services Division Handbook which are incorporated by reference, shall govern the contracting phases with which the Service will be involved.

B. Negotiating Contracts for Engineering Services

The Sponsoring Local Organization may retain or employ competent engineers on a reimbursable basis or it may request the Soil Conservation Service to furnish engineering services except for non-agricultural water management. If these services cannot be provided through present resources, the Soil Conservation Service may negotiate contracts for private engineers to perform the work. The Soil Conservation Service may contract at any time for engineering services which it requires; however, preparation of designs, specifications, and other items involved in carrying out works of improvement under P.L. 566 must not be contracted for prior to approval of the work plan.

Prior approval of the Washington Office must be obtained before starting negotiations for engineering services. Requests for authority to negotiate this type of contract should contain a concise statement

of the job to be done and a statement that it cannot be done with the facilities of the State, and offices of the Engineering and Watershed Planning or Cartographic Units. The engineer's cost estimate and estimated performance time must be supplied. The request shall be concurred in by the Head of the Engineering and Watershed Planning Unit.

Contracts may be let for any of the types of engineering work in the planning stages, in the operation stage or for any phase of engineering work needed in the development of complete construction plans and specifications. It is not intended, however, that a contract be negotiated for development of a complete work plan.

Contracts for engineering services may be negotiated by State Offices and Engineering and Watershed Planning Units after obtaining Washington approval. The Engineering and Watershed Planning Units located in State Offices shall utilize the services of that administrative staff in developing and awarding contracts for all states within their area. The other Engineering and Watershed Planning Units will negotiate and award their own contracts. The State will negotiate all contracts for the class of engineering normally done in the State. Engineering and Watershed Planning Units will negotiate contracts for work they normally do for the State such as development of construction plans and design specifications. Close working arrangements must be maintained between the State and the Engineering and Watershed Planning Units. All contract plans and specifications are to be prepared in consultation with, or reviewed by, the Engineering and Watershed Planning Units. Engineering service contracts to be negotiated by the Engineering and Watershed Planning Units must have prior approval of the State Office because of the funds angle and other fiscal aspects.

The office negotiating the contract must be sure that all work performed under a negotiated contract is done in keeping with contract specifications and in conformance with State laws regarding registration and approval to practice engineering within the State. All contracts must be negotiated in an ethical manner and in the best interests of the Government.

It is important that Administrator's unnumbered memorandum of October 10, 1956, be carefully studied in dealing with this subject. (Also see Section 17 of this Handbook.)

II. METHODS OF DOING CONSTRUCTION WORK

A. Formal Construction Contracts

The practice of contracting with the lowest qualified bidder to perform a complete job in accordance with prescribed plans and specifications has long been followed by the Government. Under this

method, bids are requested from prospective bidders through issuance of formal invitations to bid. Sealed responses are opened at a designated time and place and subsequent award made to the lowest responsive qualified bidder.

In recommending construction procedures, it should be kept in mind that the contract system generally affords the best and most efficient method for carrying out practically all classes of construction work. Under special conditions, as pointed out below, where the work to be done is small in scope, simple, or of a nature that is difficult to develop complete plans in advance of the job, construction by Force Account or rental contract may be used.

B. Equipment Rental Contracts

Equipment rentals are distinguished from construction contracts by the Comptroller General as follows:

"Contracts for rental of equipment with operating personnel are not contracts 'for construction, alteration, and/or repair **** of public works' - - - - even though the equipment may be used in connection with the construction of 'public buildings' or 'public works.' " (19 CG-467).

This type of contract should be used only when a formal construction contract is impractical. It may not carry beyond the period for which an appropriation is available, unless statutory authority to contract in advance of appropriation availability exists. It should not encompass a specific job. That is, it should cover an appropriate number of hours for equipment at a designated location. Special care should be exercised in the close supervision of this type of contract.

C. Use of Force Account

As a general rule, Force Account operations are adapted only to small jobs, simple in scope and character, or to certain types of jobs that are difficult to evaluate because of the problems involved in making complete investigations.

Where the Service agrees to the works of improvement being done by Force Account, through the use of the Sponsoring Local Organization's facilities, the Project Agreement may commit the Soil Conservation Service to make payments for satisfactory work as it progresses.

Insofar as inspection is concerned, careful supervision by competent engineers must be maintained at all times irrespective of how the construction is carried out.

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III. CONTRACTING AUTHORITY

A. Federal Government

On works of improvement, other than non-agricultural water management, where the local organization decides not to retain or employ a professional engineer, or where the Service determines that competent engineering services are not available, the Service may contract for a competent engineer to provide engineering services or arrange for employees of the Federal Government to provide such services.

B. Local Organization

Authority for any State, political subdivision thereof, soil or water conservation district, flood prevention, or control districts, or combinations thereof, or any other similar agency to contract varies among the states. The Contracting Local Organization must be authorized under state law to enter into the contracts for works of improvement.

IV. CONSTRUCTION CONTRACTING BY GOVERNMENT

The Government is prohibited from contracting for the construction of works of improvement under the Act, except as follows:

The agency responsible for administration of the land may develop by contract, or otherwise, works of improvement on Federal lands. In these cases the rules and regulations of the agency concerned, together with the provisions of any agreement between the Soil Conservation Service and the agency, will apply to the preparation, administration, and supervision of the contract.

V. CONSTRUCTION CONTRACTING BY CONTRACTING LOCAL ORGANIZATION

The procedures set out in this section are predicated primarily upon conditions where one of the Local Organizations sponsoring the project will be the Contracting Local Organization. The Service will confine its activities in the field of contracting to that of assisting the Contracting Local Organization. The responsibility for contracting and administering non-Federal contracts will be in the hands of the local agencies. The local character of these projects must be preserved at all times.

VI. CRITERIA FOR CONTRACTING LOCAL ORGANIZATION

During the formulation of the work plan, or as soon as practicable thereafter, it is important to affirmatively determine, by documentation from the Sponsoring Local Organization, that it either has satisfactory facilities or has firm commitments for letting and servicing contracts.

Federal funds are not available to defray Local Organization costs of awarding and administering contracts. Thus, the Government must be assured that the Contracting Local Organization has available an adequate staff of experienced personnel and the necessary resources to assure that the contract will be executed and all work performed in accordance with plans, specifications, and administrative requirements. Responsibility for making this determination is vested in the State Administrative Officer.

The Contracting Local Organization should become a co-sponsor of the project either prior to or subsequent to approval for starting the works of improvement. (See Section 2, Paragraph XVI.)

A. Criteria Required by Law

1. The Contracting Local Organization must have legal authority to award contracts.
2. The Contracting Local Organization must have adequate facilities for arranging for, letting, and servicing construction contracts.

B. Other Requirements

The following conditions shall also govern the Contracting Local Organization:

1. In choice of contractors, the Contracting Local Organization will use the same general basis for bid acceptance as the Department of Agriculture.
2. At the time the Project Agreement for Construction of Works of Improvement, or any supplement thereto, is executed which commits Federal funds for the construction of works of improvement, the Contracting Local Organization must have in hand or have binding arrangements made for the funds necessary to meet its share, if any, of the contract cost.
3. Where Federal funds are used on a job to be competitively contracted for, the Sponsoring Local Organization will not be permitted to bid on any rental or construction contract for constructing works of improvement.
4. Federal funds made available to the Contracting Local Organization for the construction of works of improvement by contract (other than for engineering services) may be used only for making payments to the contractor in accordance with the terms of the contract.

VII. EASEMENTS, RIGHTS-OF-WAY, WATER RIGHTS AND LAND TREATMENT MEASURES

A. Certification

All necessary land, easements, or rights-of-way will be provided by the Sponsoring Local Organization without cost to the Federal Government, including surveying and legal services as set out in Section 15. Prior to issuance of invitation to bid, the State Administrative Officer will secure a certification from the Sponsoring Local Organization that:

1. Owners of at least 50 percent of the lands in the drainage areas above each retention reservoir have agreed to carry out a Basic Farm Plan.

2. All necessary land rights have been obtained. (See Exhibit C, Section 15.)

3. Land owners or water users have acquired, pursuant to State laws, such water rights as may be needed in the installation and operation of the works of improvement.

VIII. PARTIAL PAYMENTS, ADVANCES, REIMBURSEMENTS AND REFUNDS

The following methods, procedures, and accounting requirements are prescribed in paying for work performed, handling of partial payments, advances and reimbursements and refunds involved in works of improvement financed with Federal funds.

A. Construction Funds

It is the general policy of the Service to make construction funds available to the Contracting Local Organization on a partial payment basis as the work progresses. Exceptions to this general policy may be made upon application of the local organization setting forth the circumstances. The exception may be based on a State law which prohibits the contracting agency from entering into a contract unless it has the funds available. In such case a citation of the State law should be shown on the application. Form SCS-56, Application for Advance of Construction Funds, must have the recommendation of the State Conservationist and must be approved by the Administrator. After necessary approval has been obtained, distribution shall be the same as that set out in Sub-paragraph C following.

B. Partial Payment Estimates to Contracting Local Organization

The Government Representative shall certify the construction quantities estimate. Form SCS-49a contains a certification

to be executed for partial payments. Upon completion of the job, he will make a careful inspection to determine and verify final quantity. When final payment report is submitted, the Government Representative will alter the printed certification on Form SCS-49a by deleting the words "to the best of my knowledge" and by deleting the word "estimated" in the third line of the certification.

The certification will then read as follows:

I certify that I have inspected the above work; that it is in accord with specifications and contract and that the quantities are correct; and that work herein for the period from _____ 19____, to _____ 19____, inclusive, has not been reported on any previous estimate.

The Soil Conservation Service will make partial payments to the Contracting Local Organization as the work progresses. Form SCS-49a, the exhibit appearing at the end of this section, is the prescribed payment form. The Contracting Local Organization will prepare the estimate not more often than monthly, usually at the end of each month. The estimate should be prepared by the Contracting Local Organization and submitted to the State office in the original and two copies. The following certificate should be executed by the Contracting Officer or an authorized individual acting for him:

Payee - Name of Contracting Local Organization
Address _____
I certify that the above bill is correct and just and
that payment therefor has not been received.
Date _____ Per _____
Title _____

The estimate serves as a billing instrument and the State Office will process the document in the same manner as other invoices. Checks will be forwarded by the disbursing officer directly to the Contracting Local Organization.

In preparing estimates for partial payments, the material delivered on the site and preparatory work done will not be taken into consideration.

The Government shall retain 10% of the amount due the Contracting Local Organization in making partial payments to it.

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The contract shall specify that in making partial payments, the Contracting Local Organization shall withhold 10% of the amount due to the contractor on each partial payment estimate which includes the 10% withheld by the Government. Provided, however, that the Contracting Officer (upon approval of the Service) at any time after 50% of the work has been completed, if he finds that the contractor has kept progress with the original construction schedule, may make any of the remaining partial payments in full; and provided further that on completion and acceptance of each separate segment or other division of the contract, on which the price is stated separately in the contract, payment may be made in full, including retained percentage thereon, less authorized deductions.

The original of the estimate will be filed in the State Office. One approved copy will be returned to the Contracting Local Organization and the remaining copy forwarded to the Government Representative for his information.

C. Advances or Reimbursement of Funds for Engineering Services

The Sponsoring Local Organization may retain or employ a professional engineer, or engineers, satisfactory to the Secretary, and the Service will reimburse the local organization for engineering services as are properly chargeable to the Service. The State Conservationist shall give prior approval for the engineering services to be furnished by the Sponsoring Local Organization as to the kind and amount of services for which the Service will reimburse the local agency.

Advances of funds for engineering services as well as reimbursement of costs for such services will be considered upon written request of the Sponsoring Local Organization on Form SCS-56, Application and Agreement for Advance or Reimbursement of Funds, copy of which is included at the end of this section. The request should cover only those services for which the Service is authorized to pay. The form should be prepared by the Sponsoring Local Organization, all copies signed by an authorized representative of the requesting agency and submitted to the State Office in the original and four copies. After necessary approval has been obtained, the following distribution shall be made:

- Original - State Office
- 1 copy - Engineering & Watershed Planning Unit
- 1 copy - Government Representative
- 1 copy - Administrative Services Division, Washington
- 1 copy - Sponsoring Local Organization

When Washington approval is given, the Washington copies will be retained and the remaining copies returned to the State Office where distribution will be completed.

Application requests for advance or reimbursement of funds for engineering services may be approved by the State Conservationist if for \$50,000 or less. Requests for over \$50,000 must be submitted for review by the Administrative Services and Budget and Finance Divisions, and approval or disapproval of the Administrator. Applications submitted to Washington must bear the recommendation of the State Conservationist.

D. Refunds

Where the advance of funds is made as provided in subparagraph "A" and "C" above, the application for the advance (Form SCS-56) will provide for the Local Organization to refund to the Service any balance unexpended after completion of the agreed work and final payments have been made.

The State Office should ascertain whether there is any balance remaining that should be refunded to the Service. In the event there is such a balance, a letter should be addressed to the Local Organization requesting that the refund be made. The letter should be used as the accounting document to establish an accounts receivable (refund) for the amount of refund due. Such refund will be credited to the appropriation and allotment account from which the advance was made.

IX. PROJECT AGREEMENTS FOR CONSTRUCTION OF WORKS OF IMPROVEMENT

A. Preparation

Prior to the release of invitation to bid by the Contracting Local Organization, a Project Agreement for Construction of Works of Improvement shall be prepared and executed by the Local Organization(s) and the Soil Conservation Service. The Exhibit "A" at the end of this section is to be followed as to format and is partially filled out for your guidance. This agreement (with SCS-56 in cases of advances and reimbursements), rather than the contract, is the instrument through which the Government and the Local Organizations will commit themselves on contracting matters. It is the instrument which will obligate Federal funds. In cases where subsequent contraction action results in need for commitment of additional funds, an amendment must be executed to obligate the additional funds needed or, where funds are in excess of needs, to provide for a reduction in obligation of Federal funds.

The Project Agreement for Construction of Works of Improvement should be complete and clearly prescribe all commitments of the parties to the Agreement. Among other things it will cover the following:

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1. Identification of works of improvement.
2. Percentage of funds, if any, to be furnished by the Sponsoring Local Organization. (Estimated cost of works of improvement, including contingencies, should also be shown.)
3. Percentage of funds to be furnished by Government. (Estimated cost of works of improvement, including contingencies, should also be shown.)
4. Percentage of funds, if any, to be furnished by Contracting Local Organization.
5. Provision for the Local Organization(s) supplying additional funds over and above that stipulated by "2" and "4", in the event of unusual or unforeseen conditions increasing the cost beyond the contingency provided.
6. Provision to require the Contracting Local Organization to obtain the approval of the Service before terminating the contractor's right to proceed under the contract and declaring him in default.
7. Method of payment by Government.
8. How changes in plans, specifications, etc., are to be handled.
9. Records and data to be maintained and preserved by Contracting Local Organization.
10. What Contracting Local Organization is to furnish in administering contract.
11. Provisions for continuous inspection of all work, as determined by the Government to secure compliance with plans and specifications.
12. What assistance the Soil Conservation Service will provide during construction of works of improvement.
13. Provision as to who will furnish designs, plans and specifications.
14. Provision for furnishing "as built" plans to Government when the SCS does not provide the engineering services.
15. Reference to Operation and Maintenance Agreement.

16. Member of Congress Clause and provision to include, by reference, the Copeland (Anti-Kickback) Act in contracts resulting from the Agreement.

B. Authorities to Execute Agreement

State and Territorial Administrative Officers will sign Project Agreements for Construction of Works of Improvement involving a Federal contribution of not to exceed \$50,000, and the Director of the Administrative Services Division those involving funds in excess of \$50,000. Agreements to be signed by the Director of the Administrative Services Division are to be submitted to Washington for approval prior to submitting them to the local agencies for signing.

C. Distribution of Agreement

Upon completion and approval of the Washington Office when required in paragraph B above, the State Administrative Officer will retain a suspense copy and forward the original and required number of copies to the Contracting Local Organization for signature by an official authorized to sign on its behalf.

It will also be signed by all Sponsoring Local Organizations which are not acting as the Contracting Local Organization. After execution, one copy may be retained and the signed ribbon copy and remaining signed copies returned to the State Office where within authority it will be signed by the State Administrative Officer and distributed as follows:

Original - State Office

1 signed copy - to each of the signatory local organizations

1 conformed copy - Engineering & Watershed Planning Unit

1 conformed copy - Government Representative

1 conformed copy - Administrative Services Division, Washington

NOTE: Where the Project Agreement is signed in Washington, sufficient copies must be submitted to provide a signed copy to the Administrative Services Division. After signing, one copy will be retained and the remaining copies returned to the State Office for distribution.

X. PREPARATION OF INVITATION TO BID BY CONTRACTING LOCAL ORGANIZATION

A. Requirements to be Included

The Contracting Local Organization will use the sealed bid method of advertising and may incorporate into the invitation such requirements as desirable or as necessary to comply with State, County, and local laws. The Contracting Local Organization will also include such requirements and conditions as the Government may specify as being necessary to protect its interests. Should requirements of one party be in conflict with those of the other, mutual agreement must be reached based on the circumstances attending each individual case.

B. What the Government May Furnish

In cooperating with the Local Organizations in carrying out the Act, the Soil Conservation Service may:

1. Provide engineering designs, plans, and technical specifications, including reproductions as necessary.

2. Furnish engineer's estimate of cost (except for Local Organizations, its contents must be kept confidential until after bid opening).

3. Recommend length of construction period and dates.

4. Provide results of investigations, tests, surveys, and studies as may be necessary for the preparation of plans and for determining the financial and economic soundness of plans for works of improvement.

5. Give assistance in preparation of invitations to bid.

C. Method of Operation and Approvals Required

Data, designs, specifications, etc., furnished the Contracting Local Organization are to be in accordance with the same general policies, procedures, standards, and authorities governing operations in the Flood Prevention and Watershed Protection construction programs.

Plans, specifications, designs, etc., prepared by another agency must be reviewed and approved by the Soil Conservation Service prior to incorporation into the invitation.

All invitations to bid involving \$50,000 of Federal funds or less must be approved by the State Administrative Officer, in

consultation with program staff and other Service personnel as deemed necessary, prior to their release by the Contracting Local Organization. All invitations to bid, where it is anticipated that the bid will involve an expenditure of more than \$50,000 Federal funds, must be submitted to Washington with the recommendation of the State Administrative Officer for approval.

D. Distribution of Invitation to Bid

It is the responsibility of the Contracting Local Organization to distribute the Invitation to Bid; however, three copies are to be furnished to the State Office for distribution as follows:

- 1 copy - State Office
- 1 copy - Engineering & Watershed Planning Unit
- 1 copy - Administrative Services Division, Washington

XI. CONTRACTUAL STIPULATIONS IN LOCAL CONTRACTS

A. Federal Government Requirements

It is expected that the Contracting Local Organization will protect the Government's interest by exercising prudent management and employing sound business principles in conducting its contractual functions. In protecting the Government's interest, it will be necessary to incorporate in the contract such stipulations as the Government may determine to be needed, including the following:

1. Bonding Requirements

As bid guaranty, each bidder shall submit a negotiable U. S. Bond or Note, Bid Bond, Cashier's or Certified Check or Post Office Money Order. An amount not less than 10 percent of the bid is strongly suggested; however, if State statute calls for a different amount, or if other compelling reasons make it desirable to change the percentage, the State Administrative Officer may consider deviating from the 10 percent figure. The successful bidder, upon execution of contract, shall be required to furnish Performance and Payment Bonds. Amounts of not less than 100 percent and 50 percent, respectively, of the estimated aggregate payments to be made under the contract are suggested. Combination Performance and Payment Bonds are acceptable on works contracted by the Contracting Local Organization. When the dual bond is used, 100 percent of the bid price is usually sufficient. Regardless of the type bond used, it should provide for changes affecting the contract amount without necessity of securing approval of the surety in each individual case.

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2. Liquidated Damages

The Contracting Local Organization shall incorporate in the invitation an item of liquidated damages on the basis of the cost of engineering, inspection and other assistance furnished in administering the contract. This cost will vary according to the size of the project. However, it has been the experience of the Soil Conservation Service that the following table of rates is representative of the costs of personnel required in administering the various phases of construction contracts. If any substantial change is contemplated by the Contracting Local Organization, it should discuss the proposed change with the State Administrative Officer.

ORIGINAL CONTRACT AMOUNT	DAILY CHARGE
2,001 to 25,000	\$ 25
25,000 to 50,000	40
50,000 to 75,000	60
75,000 to 100,000	80
100,000 and up	100

Collected liquidated damages will be prorated between the Sponsoring Local Organization, the Contracting Local Organization, and the Federal Government in the same ratio as that established by the Project Agreement executed pursuant to Paragraph IX.

3. Copeland (Anti-Kickback) Act

The regulations of the Secretary of Labor applicable to contractors and subcontractors (29 CFR, Part 3) made pursuant to the Copeland Act, as amended (40 U.S.C. 276 c) and to aid in the enforcement of the Anti-Kickback Act (18 U.S.C. 874) are to be made a part of all contracts by reference. The contractor will comply with these regulations and any amendments or modifications thereof and the prime contractor will be responsible for the submission of affidavits required of subcontractors thereunder. Each week the following sworn affidavit must be furnished with respect to wages paid to employees engaged on work covered by these regulations during the preceding weekly payroll period:

STATE OF _____
COUNTY OF _____

I, _____ (Name of party signing Affidavit) _____ (title), being duly sworn do depose and say: That I pay or supervise the payment of the persons employed by _____ (contractor or subcontractor) on the _____ (building or work); that during the payroll period commencing on the _____ day of _____, 19____ and ending the _____ day of _____, 19____, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said _____ (contractor or subcontractor) from the full weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full weekly wages earned by any person, other than permissible deductions, as defined in the regulations under the "Kickback" Act (48 Stat. 948) and described below:

(Paragraph describing deductions, if any).

Signature

Sworn to before me this _____ day of _____, 19____.

Affidavits required under this Act will be filed in the contract files of the Contracting Local Organization. (The Davis-Bacon Act, the 8-hour Laws, the Miller Act, as such, and convict labor prohibition do not apply.)

4. Member of Congress Clause

Any contract or agreement involving expenditure of Federal funds will contain a statement that "no member of or delegate to Congress, or Resident Commissioner, shall be admitted to any share or part of the contract (or agreement) or to any benefit that may arise therefrom." The provisions shall not be construed to apply if made with a corporation for its general benefit.

5. Contractor's Liability

It is expected that the Contracting Local Organization will protect the interests of the Government (as well as that of its own) by fixing certain responsibilities upon the contractor in the event of loss or of damage to the works of improvement. The

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contractor shall be responsible for all damages to persons or property that occur as a result of his fault or negligence in connection with the prosecution of the work. He shall also be responsible for all materials delivered and work performed until completion and final acceptance, except for any completed unit thereof which theretofore may have been finally accepted.

No such damage or loss shall relieve the contractor of, or in any way affect, his obligations to complete and deliver the work in accordance with the contract requirements, irrespective of any insurance carried by the contractor. Nothing herein shall prohibit the Contracting Local Organization from making final acceptance of any completed unit of work, provided it so desires and further provided that the Government has concurred in final acceptance.

6. The contractor shall, within such time as determined by the Contracting Local Organization after the date of the contract, notify the Contracting Officer in writing of the names of all subcontractors proposed for the work, the extent of the work to be done by each, and the general terms and conditions of each proposed subcontract. Such subcontracting proposals must be concurred in by the State Administrative Officer and made a matter of record in all offices receiving copies of the contract. If, for sufficient reason at any time during the progress of the work, the Contracting Officer determines that any subcontractor is incompetent or undesirable, he will notify the contractor accordingly, and immediate steps will be taken for cancellation of such subcontracts. Subletting by subcontractors shall be subject to the same regulations. (The State Administrative Officer will counsel with the Contracting Local Organization on any phase dealing with subcontractors, including approvals or cancellations.)

7. Quantity Variation Provisions

In protecting the Government's interests, the Contracting Local Organization shall reserve the right to increase or decrease by twenty-five percent, or less, at the unit prices shown, the unit quantities of work to be performed, as set forth in the bid schedule.

8. Changes

In addition to the 25 percent clause, there shall be incorporated a provision for performing extras within the scope of the contract to take care of changes and changed conditions. The Contracting Officer of the Contracting Local Organization may at any time, by written order (with prior concurrence of the State Administrative Officer who shall obtain required technical approval) and

without notice to the sureties (unless prohibited by bond stipulations), make changes in the drawings and specifications of the contract and within the general scope thereof. If such changes cause an increase or decrease in the amount due under the contract, or in the time required for its performance, an equitable adjustment shall be made and the contract shall be modified in writing accordingly.

9. Materials to be Furnished by the Contractor

Unless otherwise specified in the invitation, or on the plans all equipment, materials, and articles incorporated in the work to be performed under the contract are to be new. The contractor shall furnish certification prepared and signed by the manufacturer or supplier to the effect that the items furnished meet all the requirements of plans and specifications unless waived in writing by the Contracting Officer. Such certification must be furnished prior to the use of the material in any part of the construction and should set out citation to the specification under which furnished, contract number, site number, type of material, quantity, and the name of the contractor purchasing the material.

XII. LETTING CONTRACTS BY CONTRACTING LOCAL ORGANIZATION

A. Pre-Invitation Notices

The Contracting Local Organization should prepare and furnish to potential bidders a notice announcing the pending advertisements. The announcement should contain such information as the following:

1. Nature, scope or size, and location of work.
2. Bonding requirements.
3. Closing date of invitation and completion time of job.
4. Whom to contact at site of work and the office from which to request invitations to bid.

Based upon requests received as a result of these notices, the Contracting Local Organization should furnish invitations to prospective bidders and receive and protect bid responses until the time set for opening.

B. Opening of Bids

The Contracting Local Organization will conduct all phases of the bid opening, although the Service will have a representative present in the capacity of an observer. The observer should be an

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individual experienced in bid opening procedures and will be expected to make a report to the State Administrative Officer concerning the events transpiring at the opening. The State Administrative Officer will be responsible for seeing that a qualified representative of the Service is in attendance at all openings.

C. Determining Low Bidder and Approval of Award

The Contracting Local Organization will be responsible for determining the low bidder and for ascertaining the sufficiency of his equipment and plant. When all such preliminaries are completed, the low bidder's file and an abstract of all bids, together with recommendations for award, will be turned over to the State Administrative Officer for examination and approval prior to award. The State Administrative Officer may, if deemed necessary, cause a physical inspection of the low bidder's plant and equipment to be made as an aid in determining his ability to perform.

The State Administrative Officer may refuse to concur in the recommendation for award if, in his opinion, the requirements of the Government are not adequately met, or there is doubt as to the low bidder's ability to perform. In these instances, he should work closely with the Contracting Local Organization in efforts to remedy the deficiencies. In some cases, it may be necessary to recommend disqualification of the low bidder and to recommend acceptance of another bid or to request readvertisement. At such time the State Administrative Officer satisfies himself that the low bidder is qualified and the bid is in order, he should notify the Contracting Local Organization in writing of his approval and concurrence in the award and at the same time return the bidder's file, etc., to the Contracting Local Organization.

D. Award of Contract

Upon receipt of the Government's approval and concurrence in award, the Contracting Local Organization may proceed with executing the contract by making acceptance and giving notification to the contractor, together with other necessary instructions.

E. Distribution of Contract

It is the responsibility of the Contracting Local Organization to make distribution of the contract including one signed copy and three conformed copies to the State Office for further distribution as follows:

- 1 copy (manually signed) - State Office
- 1 copy - Engineering & Watershed Planning Unit
- 1 copy - Government Representative
- 1 copy - Administrative Services Division, Washington

XIII. ASSISTANCE BY SERVICE IN ADMINISTERING LOCAL CONTRACTS

The Government shall not deal directly with the contractor with respect to matters for which the Contracting Local Organization has primary responsibility.

The Service should provide necessary information as to administrative requirements which will adequately protect the Government's interest. It may assist the Contracting Local Organization by advising and counseling on matters pertaining to contracting and contract administration.

The term "supervision of construction" as used in the Act has reference to professional engineering services and not to clerical or legal duties, or the duties of the contracting officer. Service personnel cannot perform any of the duties of the contracting officer or act as his agent. The duties of Service personnel after letting of the contract are to be confined to assisting and counseling with the Contracting Local Organization and performing inspection work.

A. Duties and Responsibilities of Service Personnel

1. Principal Duties of State Administrative Officer in Representing the Service:

a. Keep currently informed as to developments within watershed including status of such items as surveys, work plan, timetable of operations and fund arrangements.

b. Take leadership in developing and processing the Project Agreement for Construction of Works of Improvement.

c. Process SCS-56, Application for Advance or Reimbursement.

d. See that a certificate is furnished by the appropriate local organization that all necessary lands, easements and rights-of-way, etc., have been secured and the instruments conveying these rights have been properly recorded. (See paragraph VII A.)

e. Contract for engineering services subject to conditions set out in Paragraph III A of this Section.

f. Furnish Contracting Local Organization with information as to Government's administrative requirements to be incorporated in the invitation to bid.

g. With assistance of the program staff, review local invitations to bid prior to release.

h. Approve award of contract on the part of the Government and appoint Government Representative. Copies of letter of appointment will be furnished the contracting Local Organization, the Administrative Services Division, Washington, D. C., and the Engineering and Watershed Planning Unit.

i. Arrange with Contracting Local Organization for sufficient copies of contractual documents, certifications, and correspondence for Service requirements and make necessary distribution.

j. Approve contract modifications for the Government, with assistance from program staff as needed.

k. Review construction schedules and revisions, progress reports and related documents and with the Government Representative, counsel with the Local Organization's Contracting Officer, making recommendations designed to keep work in pace with schedule.

l. Receive and process Form SCS-49a, Payment Estimate for Partial and Final Payments to Contracting Local Organization.

m. Advise and counsel with Contracting Local Organization's Contracting Officer on problems of contract management and administration.

n. Keep State Conservationist, members of the program staff as well as interested offices of the Service, informed of important developments.

o. Upon notice from the Government Representative, notify interested parties of the Service to participate in the final inspection of the job.

p. Based on certification of the Government Representative and the State Conservation Engineer, notify Contracting Local Organization's Contracting Officer of final acceptance of the job on the part of the Government.

q. See that affidavits as to payment of wages with respect to the Anti-Kickback Act are on file in the Office of the Contracting Local Organization prior to final inspection and acceptance of work.

r. Make fiscal review of Contracting Local Organization's records as deemed necessary.

2. Government Representative

The Government will designate for all works of improvement a Government Representative (who will be an engineer for structural jobs)

to carry out its obligations, protect its interests and maintain close working relations with the Contracting Local Organization.

The Government Representative will perform the inspecting and reporting services required by the Government. Where the work load or its geographic distribution justifies, he may be aided in carrying out his functions by other government personnel.

The general functions of a Government Representative are stated in Administrator's Memorandum SCS-61. In general, he gives assistance to the Local Organization's Contracting Officer. He may provide the necessary inspection, engineering assistance, and interpretation of plans and specifications, and may recommend acceptance of work. He protects the Government's interests by making periodic checks and inspections of construction operations.

The Government Representative will make such checks as needed to verify the progress of work in support of partial and final payments.

The principal Engineering and Inspection Functions commonly performed in connection with contracts:

- a. Work with the Contracting Officer in arranging for timely engineering assistance to keep pace with the contractor's construction schedule.
- b. Recommend when work should be stopped and started and when change orders and supplements are needed and then prepare them or assist in their preparation.
- c. Determine whether construction work is acceptable and done in accordance with the plans and specifications.
- d. Make periodic inspection reports and construction Progress reports.
- e. Interpret plans and specifications.
- f. Measure quantities of construction work for periodic and final payments, and certify to quantities.
- g. Stake out lines, grades, and locations for construction work.
- h. Run field tests on earth fill materials, concrete, concrete aggregates and other materials used in construction.

- i. Check acceptability of concrete aggregates, cement, water, pipe, reinforcing steel, hardware, paint and other materials used for construction.

3. Utilization of Sponsoring Local Organization's Services

When the Sponsoring Local Organization has available (either within its own organization, by contracting, or otherwise engaging) competent engineers and inspectors, engineering services assistance may be furnished by it and the Government will reimburse the local organization for the cost incurred which is properly chargeable to the Service (see Paragraph VIII C).

On flood prevention installations where it is not feasible for local organizations to provide an on-the-job engineering inspector, the Federal Government will arrange for or provide engineering and inspection services as listed in item 2, (a) through (i) above. When performing these services, the Government Representative shall deal direct with the Contracting Local Organization. Assistance so furnished by the Government must be set forth in the project agreement.

B. Construction Schedule

The Contracting Local Organization shall within 20 calendar days after the date of receipt of commencement notice by the contractor, but prior to work commencement, require the contractor to furnish a complete construction schedule showing in detail his proposed program of operations. The Government Representative will be furnished 3 copies of such schedule as well as any revisions, for his approval and use in a continuing examination of the progress of the work.

The Government Representative shall furnish the State Office and Engineering and Watershed Planning Unit with a copy of the construction program and revisions for their review and completion of files.

C. Maintaining Records

The Contracting Local Organization's Inspector shall maintain a daily record of construction activities and progress. When necessary, the State Administrative Officer and the Government Representative will counsel with the Local Organization's Contracting Officer, making recommendations designed to keep work in pace with schedule.

The Government Representative shall submit a monthly progress report and such other reports, as required, in three copies, to the State office for use of the State Administrative Officer and the State Conservation Engineer in comparing the accomplishments with the construction schedule. The State office will distribute the above reports, together

with notices of any actions on its part, to the Engineering and Watershed Planning Unit, and to the Washington Administrative Services Division.

D. Stop and Resume Orders

The Government Representatives may, as necessary, collaborate with the Contracting Local Organization's Contracting Officer in recommending the issuance of "stop" and "resume" orders. When necessary, he may assist in preparing them for the Contracting Officer. Three copies of all "stop" and "resume" orders should be promptly sent to the State office for information purposes and for completion of records. The State office should forward one copy of such orders to the Engineering and Watershed Planning Unit and to the Administrative Services Division in Washington.

E. Modification of Contracts

Change orders and supplemental agreements are types of contract modifications. The distinction as to whether a change order or a supplemental agreement is required rests upon whether the contractor can be required under the existing contract to perform the proposed change or whether such change cannot be required of him without his consent and acceptance.

The Service will consult with the Contracting Local Organization concerning modifications of the contract although the Contracting Local Organization will be responsible for their issuance. All modifications must have prior concurrence of the Government.

The State Office shall utilize the services of the Engineering and Watershed Planning Unit, and the Washington Office, in keeping with established Service policy. Copies of all modifications shall be promptly furnished to the State office for its records, and for the files of the Engineering and Watershed Planning Unit, the Government Representative and for the Washington Administrative Services Division.

1. Change Orders

A change order is the proper medium for effecting changes under a contract containing provisions permitting changes within the general scope of the contract. Such change orders are confined to changes which the contract authorizes the Contracting Officer to make. Since the contractor has agreed, by the contractual provision, that such changes can be made (including, under certain circumstances, an equitable adjustment in price or time or both) change orders may be issued without the consent of the contractor but should always be in writing.

a. Extras (if within the scope of the contract) and variations caused by changed conditions, and 25% quantity changes, shall be handled by issuance of change orders. Quantity changes in excess of 25% may require a price adjustment. It may also be necessary to arrive at an equitable price to be charged for extras within the scope of the contract but not specifically set out in the bid schedules. Therefore, where price adjustments must be made it will be desirable to secure the signature of the contractor on the change order.

b. A Government Representative may approve 25% variation changes (unless they involve alterations in plans and specifications) for the Government, if delegated such authority. It may be advisable, in some cases, to withhold this authority until the Government Representative receives the needed experience to satisfactorily handle this phase for the Government. The letter of appointment should set out the duties and responsibilities of the Government Representative. Copies should be made available to all parties having a copy of the contract, except it will not be necessary that the contractor be notified.

c. Extra work and material will be handled by the issuance of a change order, if it is permitted by, and is within the general scope of the contract. Otherwise, it should be effected through the issuance of a supplemental contract agreement at a negotiated price or through advertising and awarding another contract, depending upon the existing circumstances in each case. In either instance prior approval of the State Administrative Officer is required. He will also obtain assistance from the State Conservation Engineer and from the Engineering and Watershed Planning Unit as required.

2. Supplemental Contract Agreements

A supplemental agreement is the proper medium for effecting changes to a contract which requires the consent of the contractor. Supplemental agreements shall be in writing, signed by the Contractor and the Contracting Officer. This type modification is used primarily when the change is not within the general scope of the basic contract. Care must be exercised when contemplating a change outside the scope of the contract. It should be determined that monies are available for the particular job, that it is in furtherance of the work program involved and that it is inherent to the general type work being performed under the basic contract. A determination must be made that the negotiated price does not exceed the price that could reasonably be expected through formal advertising.

3. Distribution of Copies

All parties having copies of the basic contract should be furnished with a copy of any modification issued. It is the responsibility

of the Contracting Local Organization to provide these copies. The State office should be furnished copies for distribution as follows:

- 1 copy (manually signed) - State Office
- 1 copy - Engineering & Watershed Planning Unit
- 1 copy - Government Representative
- 1 copy - Administrative Services Division,
Washington, D. C.

F. Termination and Defaults

The responsibility for terminating the contractor's right to proceed under the contract and declaring him in default is that of the Contracting Officer, however, before such action is taken Service approval must be obtained. The State Administrative Officer should review all facts and advise with the Contracting Officer as to the course to follow, keeping in mind the interests of the parties providing contract funds.

The Contracting Local Organization is required to have the successful bidder furnish Performance and Payment Bonds upon execution of the contract. Payment bonds are for the protection of laborers and materialmen. Performance bonds are to assure completion of the work up to the limit specified in the bond.

When a contractor is declared in default and a replacement contract let at a cost higher than the defaulted contract, additional funds to take care of such excess cost must be arranged for until final costs can be determined and the surety makes appropriate refund.

The required additional funds may be provided through contingency arrangements specified in the Project Agreement or, if they have been exhausted, they should be furnished in the same ratio as construction funds are to be provided as set out in the Project Agreement. The Contracting Local Organization is responsible for handling all of these details for keeping necessary records incident to and for preparing a computation of final costs as a basis of settlement with the surety.

When satisfactory settlement has been made by the surety, appropriate reimbursement should be made by the Contracting Local Organization to the parties who originally contributed construction funds. The State Administrative Officer should keep in close touch on all such matters and see that the Federal Government's interests are properly considered.

G. Inspection and Tests

In discharging responsibilities with respect to construction operation, the Construction Engineer in the Engineering & Watershed Planning Unit is available to assist the State Conservation Engineer. He will work with the State Conservation Engineer and Contracting Local Organization in developing an inspection program that meets all the requirements to assure that technical phases of the work are completed in accordance with the contract. The Construction Engineer will also work with the State Conservation Engineer in checking the progress and adequacy of construction as the work proceeds.

The tests, inspections, and studies made by the Government will vary according to the facilities offered by the Contracting Local Organization. If the Contracting Local Organization has an experienced engineer on the job and has access to dependable laboratory facilities for the conducting and analyzing of tests, the Government may utilize these data, field notes, and records in satisfying various phases of inspectional requirements. If control tests are not provided, the Government Representative may make such tests as may be required to determine acceptability of concrete aggregates, cement, water, pipe, hardware, paint and other materials used for construction.

H. Safety and Accident Prevention

The Contracting Local Organization has the primary responsibility for safety and accident prevention. However, the Government Representative may advise and consult with the contracting officer to see that the contractor exercises reasonable precautions for the safety of employees of the work and that compliance is made with all applicable provisions of Federal, State and municipal safety laws and building and construction codes. Standards prescribed by the Association of General Contractors shall be followed unless in conflict with Federal, State or local safety laws and codes.

I. Violations

The Contracting Local Organization is responsible for seeing that all contract violations are promptly dealt with. The Government Representative should report to the Contracting Officer or his representative any violations of or deviations from the terms and conditions of the contract as they occur. When any significant deviations or violations occur, the Government Representative should promptly report them to the State Administrative Officer.

XIV. ACCEPTANCE OF WORK AND FINAL PAYMENT UNDER LOCAL CONTRACTS

A. Arranging for Inspection

As soon as the work has progressed to the point where a completion date can be projected, arrangements should be made by the Contracting Officer of the Contracting Local Organization, with the Government Representative, for the final inspection. The Government Representative should then notify the State Administrative Officer who will, in turn, contact other interested parties of the Government, including the State Conservationist and the Engineering & Watershed Planning Unit. It is incumbent upon the Contracting Local Organization to notify its engineer, the contractor, and representatives of local sponsoring groups in order that they may likewise participate in the final inspection.

B. Performing the Inspection

In performing the final inspection from the standpoint of the Government, consideration should be given but not necessarily limited to the following items:

1. Records of required certifications that materials furnished by the contractor meet specifications.
2. A check of the entire project to determine that work has been performed in accordance with all contractual requirements.
3. Inspection of sites and surroundings to determine that satisfactory restoration of work and adjacent areas has been made by replacing or repairing fences, roads and other improvements removed, altered or damaged during the course of construction.

C. Certificate of Completion

After final inspection and assurance that the work is completed in accordance with plans and specifications, the Government Representative and the State Conservation Engineer will execute a certification of completion to be sent to the State Administrative Officer. This will enable the State Administrative Officer to formally notify the Contracting Local Organization of final acceptance of the job on the part of the Government.

D. Notification of Acceptance

The Contracting Officer of the Contracting Local Organization should, upon assurance that the work has been accomplished in accordance with the contract, notify the State Administrative Officer in writing that the works of improvement have been completed to the satisfaction of the Contracting Local Organization.

E. Final Payment

The State Administrative Officer will then make settlement with the Contracting Local Organization concerning final payment based upon certification from the Government Representative setting out final measurements of work in place.

XV. FISCAL REVIEW OF LOCAL CONTRACTS

A. Contracting Local Organization's Records

The Government reserves the right prior to final payment to make fiscal review of all records of the Contracting Local Organization dealing directly or indirectly with the letting and administering of the contract.

Such records shall be preserved for a period of not less than five years from date of completion of contract, and made available to authorized representatives of the Federal Government for examination, upon appropriate notice.

B. Federal Government's Records

Contract records in the State office should be properly maintained and preserved in accordance with records management procedures. Retention of all field notes and supporting data is necessary since all of the Government's records must be preserved for audit and review by the General Accounting Office and interested officials of the Service.

C. Affidavits

Preceding final inspection and acceptance of work, the State Administrative Officer must ascertain that affidavits with respect to payment of wages are on file in the Office of the Contracting Local Organization (See Anti-Kickback Regulation 29 C.F.R. Part 3).

EXHIBIT A

STATE _____

WATERSHED _____

CONTRACT NO. _____

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICEPROJECT AGREEMENT FOR CONSTRUCTION OF WORKS OF IMPROVEMENT

THIS AGREEMENT, made this ____ day of _____, 19____, by and between _____ hereinafter called the Sponsoring Local Organization, _____ hereinafter called the Contracting Local Organization, and the Soil Conservation Service, United States Department of Agriculture, hereinafter called the Service,

WITNESSETH THAT:

WHEREAS, under the provisions of the Watershed Protection and Flood Prevention Act a work plan for the above watershed was agreed to by the Sponsoring Local Organization on the ____ day of _____, 19____, and the Service on the ____ day of _____, 19____, and also a Supplemental Watershed Work Plan Agreement was agreed to by the Sponsoring Local Organization on the ____ day of _____, 19____, and the Service on the ____ day of _____, 19____, for the installation of works of improvement therein described, including the works of improvement hereinafter referred to, and

WHEREAS, the Service will assist the Sponsoring Local Organization in carrying out the works of improvement hereinafter referred to and in so doing has furnished or has approved surveys, plans and specifications and estimates for said works of improvement.

NOW, THEREFORE, in consideration of the premises and of the several promises to be faithfully performed by the parties hereto as hereinafter set forth, the Sponsoring Local Organization, the Contracting Local Organization, and the Service do hereby mutually agree as follows:

- A. This agreement covers works of improvement which are described in the above Watershed Work Plan and Supplemental Watershed Work Plan Agreement as follows:

The cost of construction of the said works of improvement

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including contingencies is estimated to be _____.

B. The Sponsoring Local Organization will:

1. Be responsible for the maintenance for the said works of improvement described under "A" simultaneously upon final completion and acceptance of this work in accordance with the Watershed Work Plan, the Supplemental Watershed Work Plan Agreement, and with Operation and Maintenance Agreement entered into on the _____ day of _____, 19____, between the Sponsoring Local Organization and the Soil Conservation Service.
2. Furnish the Service, prior to issuance of Invitation to Bid, a Certification that:
 - a. Owners of at least 50% of the lands, in the drainage areas above each retention reservoir, have agreed to carry out a Basic Farm Plan.
 - b. All necessary land rights have been obtained and properly recorded.
 - c. Landowners or water users have acquired, pursuant to State laws, such water rights as may be needed in the installations and operation of the works of improvement.
3. Accept full financial and any other responsibility for any excess costs resulting from their failure to obtain adequate land rights, permits and licenses.
4. Make arrangements and inform the Service of such arrangements, for removal, relocation or replacement of all facilities such as power lines, telephone lines, pipe lines, roads, buildings, culverts, bridges, building walls and fences prior to issuing Invitation to Bid and have such work accomplished in sufficient time so as not to interfere with or hold up prosecution of work.
5. (In the event the vegetative work for structures is not included in the original contract, set forth the plans of local organization to accomplish this work.)

C. The Contracting Local Organization will:

1. Furnish the services and facilities described below:

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- a. Designate, in writing, a Contracting Officer and provide for the necessary clerical and legal assistance in arranging for, letting and administering a contract for the works of improvement described under "A" above.
- b. Prepare and issue Invitations to Bid (with Service approval), incorporating therein the Member of Congress Clause and reference to the Copeland (Anti-Kickback) Act and such provisions as are mutually acceptable to both the Service and the Contracting Local Organization.
- c. Receive and open bids, determine the qualified low bidder and submit low bidder's file and abstract of all bids together with recommendation to the Soil Conservation Service State Administrative Officer for his approval prior to award.
- d. Require the contractor to furnish a list of all proposed subcontractors, the extent of the work to be done by each and the general terms and conditions of each proposed subcontract, for approval by both the Contracting Officer and the Service prior to commencement of work by subcontractor.
- e. Award contract.
- f. Secure the prior approval of the Service as to the quality, quantity and reasonableness of cost for any engineering services provided by the Local Organization for which reimbursement is required. (Enumerate here services to be furnished by the Contracting Local Organization such as engineers, inspectors, etc.)
- g. Require the contractor to furnish, prior to commencement of work, a complete construction schedule for Service approval.
- h. Require contractor to furnish prior to using any materials on the works of improvement a certification from suppliers that items furnished meet all requirements of plans and specifications unless such certification is waived in writing by the Contracting Officer and approved by the Service.

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- i. Issue, in writing, contract modifications and stop and resume work orders including those recommended by the Service. Obtain prior approval of the Service for all contract modifications.
- j. Prepare partial payment estimates on Form SCS-49(a) and make payments to the contractor.
- k. Be responsible for seeing that the contractor exercises reasonable precautions for safety of employees on work and compliance is made with applicable provisions of Federal, State and Municipal safety and sanitation laws and building and construction codes.
- l. Dispose of any and all disputes, appeals and damage suits resulting from said contract. Hold and save the Service free from any claims or damages as may arise from this agreement or any resulting contract.
- m. Obtain the approval of the Service before terminating the contractor's right to proceed under the contract and declaring him in default.
- n. Make available for fiscal review by the Service, prior to partial or final payments, all records dealing with the letting and administering of the contract and preserve all such records for a period of not less than five years from date of completion of contract and make them available for examination by authorized representative of the Federal Government upon appropriate notice.
- o. Determine whether all work has been performed in accordance with contractual requirements, make arrangements for final inspection of completed works of improvement, and work jointly with the Service in conducting the final inspection.
- p. Obtain written concurrence of the Service and Sponsoring Local Organizations prior to notifying contractor of acceptance of the job.

D. The Service will:

1. Provide _____ percent of actual cost of constructing works of improvement described under "A" above which, including contingencies, is estimated to be \$_____.

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2. Review and approve all invitations to bid, contracts, construction schedules, and contract modifications prior to their being issued by the Contracting Local Organization, and recommend stop and resume work orders when the Service deems it desirable.
3. Counsel with and assist the Contracting Local Organization in their issuance of the bid invitation and the awarding and prosecution of the contract as required and within legal limits.
4. Provide authorized assistance as necessary, including, but not limited to, site investigations, designs and layout, plans and technical specifications, revision of plans, including reproductions, inspections, and assistance in working out administrative requirements and operation procedure.
5. Provide an engineer's estimate of construction cost and recommend length of construction period and dates.
6. Provide results of investigations, tests, surveys and studies as may be necessary for preparation of plans and for determining the physical and economic soundness of plans for works of improvement.
7. Provide the services of a Government Representative, and inspectors as necessary.
8. Furnish information to Contracting Local Organization for preparation of partial and final pay estimates.
9. Upon receiving partial payment estimates monthly as the work progresses, make payments to the Contracting Local Organization covering the Federal Government's share of construction cost, withholding 10 percent of the amount due on each partial payment except that:
 - a. After the work is 50 percent completed and is being kept current with the original construction schedule the remaining payments may be made in full.
 - b. On completion and acceptance of each separate structure or other division of the contract, other than bid schedule items, on which the price is stated separately in the contract, payment may be made in full, including retained percentage thereon, less authorized deductions.

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E. It is mutually agreed that:

1. Collected liquidated damages will be pro-rated between the Local Organization(s) and the Federal Government in the same ratio as construction funds are contributed under the terms of this Agreement.
2. In the event of default, additional funds required, if any, to assure completion of the job will be made available by the contributing parties in the same ratio as construction funds are contributed under the terms of this Agreement. Monies paid by Bonding Companies will be pro-rated between the Local Organization(s) and the Federal Government in the same ratio as construction funds are contributed under the terms of this Agreement.
3. No member of or delegate to Congress, or Resident Commissioner shall be admitted to any share or part of this Agreement or to any benefit to arise therefrom. This provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.

(Name of Sponsoring Local Organization)

By: _____

Title _____

Date _____

This action authorized at an
official meeting of _____
_____ on _____
day of _____, 19____,
at _____,
State of _____,

Attest: _____
(Title)

(Name of Contracting Local Organization)

By: _____

Title _____

Date _____

This action authorized at an
official meeting of _____
_____ on _____
day of _____, 19____,
at _____,
State of _____,

Attest: _____
(Title)

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

By: _____

Title _____

Date _____

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Note:

Flood Prevention

The above agreement is designed to be used for flood prevention construction under P. L. 566 where the Government pays the entire cost of construction and there are only two sponsoring organizations, one of which will act as the Contracting Local Organization. In the event there is only one sponsoring organization and it is also to function as a contracting organization, the agreement may be handled in one of two ways; i.e., (1) set forth under Paragraph B the duties and responsibilities the organization will assume as a sponsoring organization, and under C the duties and responsibilities as the Contracting Local Organization; or (2) delete B and transfer the applicable paragraphs to C and include under C its functions and duties both as sponsor and contracting agency. If the later is done Paragraph C will become Paragraph B.

Multiple Purpose Structures

If multiple purpose projects are involved the following paragraphs should be inserted under the agency or agencies furnishing funds, as follows:

1. Provide _____ percent of the actual cost of constructing the works of improvement described under Paragraph (A) which is estimated to be \$_____.
2. Assure contingency fund over and above those reflected in Paragraph 1 as may be needed for the purpose of installing said works of improvement. \$_____ is available for this purpose.

Under Section D of the agreement entitled "The Service will" insert the following paragraph:

Provide _____ percent of the actual cost of constructing the works of improvement described under Paragraph (A) which is estimated to be \$_____.

Under E of the agreement entitled "It is Mutually Agreed that" insert:

Upon satisfactory completion of the project and determination of final cost, proper adjustment will be made to reflect proportionate cost sharing as set forth in Paragraphs _____ and _____ of this agreement.

Multiple purpose projects, such as agricultural water management, may require special wording since set offs may be involved. It is suggested that the facts be submitted to the Washington office for assistance in wording such agreements until each State has had some training in preparing such agreements.

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SCS-56

10-56

APPLICATION AND AGREEMENT FOR
ADVANCE OR REIMBURSEMENT OF FUNDS

No. _____

TO: U. S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

(City)

(State)

From: _____
Applicant Local Organization (payee) (Street)

(City)

(State)

Application for ☐ Advance of ☐ Reimbursement of ☐ Construction ☐ Engineering services
funds in the amount of \$ _____ in connection with the performance of the following described works of improvement

Necessity for advance or reimbursement:

If advance of funds is requested, show the following information for each work of improvement:

Site No.Proposed date of constructionEstimated cost

The applicant agrees to:

1. Permit the SCS to review, if it desires, records of the local organization responsible for expending and accounting for the funds covered by this application.
2. Promptly refund to the Soil Conservation Service any unexpended balance upon completion of the work.
3. Apply proper accounting controls in connection with the expenditure of funds advanced.

(over)

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It is mutually agreed that:

No member or delegate to Congress or resident commissioner, shall be admitted to any share or part of this agreement or to any benefit that might arise therefrom; But this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

<p style="text-align: center;">Applicant Local Organization</p> <p>By: _____</p> <p style="text-align: center;">(Title)</p> <p>Date: _____</p> <p>Authority to sign: _____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p style="text-align: center;">SOIL CONSERVATION SERVICE UNITED STATES DEPARTMENT OF AGRICULTURE</p> <p style="text-align: center;">Application recommended</p> <p>By: _____</p> <p style="text-align: center;">(Title)</p> <p>Date: _____</p> <hr/> <p style="text-align: center;">Application approved</p> <p>By: _____</p> <p style="text-align: center;">(Title)</p> <p>Date: _____</p>
---	---

ACCOUNTING CLASSIFICATION (for completion of Administrative Office)						
Appropriation, limitation, or project symbol	Appropriation title				Limit'n or project Amount	Appropriation Amount
Allotment symbol	Amount	Obligations liquidated	COST ACCOUNT		OBJECTIVE CLASSIFICATION	
			Symbol	Amount	Symbol	Amount

5/1/57

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service

RC9-49a
Rev. 5-6-66

[illegible]

5/1/57

EXHIBIT D

State _____

Watershed _____

Contract No. _____

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

AMENDMENT NO. _____ TO PROJECT AGREEMENT
FOR
CONSTRUCTION OF WORKS OF IMPROVEMENT

THIS AMENDED AGREEMENT, made this _____ day of _____, 19____, by and between _____, hereinafter called the Sponsoring Local Organization, _____, hereinafter called the Contracting Local Organization, and the Soil Conservation Service of the United States Department of Agriculture, hereinafter called the Service,

WITNESSETH THAT:

WHEREAS, under the provisions of the Watershed Protection and Flood Prevention Act, a Project Agreement for Construction of Works of Improvement was entered into on the _____ day of _____, 19____, and

WHEREAS, there has been a change in the estimated cost of construction of said Works of Improvement as set forth in the aforesaid Agreement,

NOW THEREFORE, in consideration of the premises and of the several promises to be faithfully performed by the parties hereto as hereinafter set forth, the Sponsoring Local Organization, the Contracting Local Organization and the Service do hereby agree to amend the Project Agreement for Construction of Works of Improvement as follows:

- A. The last paragraph of Section A is hereby changed to read,
"The cost of construction of said Works of Improvement including contingencies is estimated to be \$_____."
- B. Paragraph numbered _____ of Section B is hereby changed to read
"Provide _____ percent of the actual cost of constructing Works of Improvement described under "A" above which, including contingencies, is estimated to be \$_____."
- C. Paragraph numbered _____ of Section C is hereby changed to read
"Provide _____ percent of the actual cost of constructing Works of Improvement described under "A" above which, including contingencies, is estimated to be \$_____."
- D. Paragraph numbered _____ of Section D is hereby changed to read
"Provide _____ percent of the actual cost of constructing Works of Improvement described under "A" above which, including contingencies, is estimated to be \$_____."

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E. These changes will (increase) (decrease) the estimated cost in the following amounts:

To the Sponsoring Local Organization \$ _____

To the Contracting Local Organization \$ _____

To the Service \$ _____

F. All other terms and conditions of the aforementioned Project Agreement for Construction of Works of Improvement shall remain in full force and effect.

(Sponsoring Local Organization)

By: _____

Title _____

Date _____

This action authorized at an official meeting of _____ on _____ day of _____ 19____, at _____ State of _____

Attest: _____
(Title)

(Contracting Local Organization)

By: _____

Title _____

Date _____

This action authorized at an official meeting of _____ on _____ day of _____ 19____, at _____ State of _____

Attest: _____
(Title)

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

By: _____

Title _____

Date _____

Note: Attestation not required when signed by same person who signed the original agreement.

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SECTION 14

COMPLIANCE WITH STATE LAWS

Sponsoring local organizations, landowners, and others participating in a watershed project should be informed that it is their responsibility to furnish assurance, prior to provision of Federal assistance in installation of works of improvement, that all requirements of State laws, procedures, and regulations have been met.

I. COMPLIANCE WITH STATE LAWS ON CONSTRUCTION OF FACILITIES

Many States have laws, procedures, and regulations relating to the design, construction and operation of such facilities as the structural works of improvement to be installed under the Act.

Some States require formal approval of dams which exceed specified limitations. Plans for water diversion or spreader systems require authorization under some conditions. State regulations often contain standards for types of construction involved in projects authorized under the Act. The sponsoring local organizations shall be responsible for securing all necessary permits and authorizations to comply with procedures and regulations relating to the types of construction involved.

II. WATER RIGHTS

The sponsoring local organizations must, prior to the installation of any works of improvement, acquire or provide evidence that landowners have acquired, pursuant to State law, such water and storage rights as may be needed in the installation and operation of the works of improvement.

The Department of Agriculture and the Soil Conservation Service will comply strictly with State laws pertaining to the acquisition of water rights. Similar compliance will be required of individuals and organizations receiving assistance under the Act.

Because of the many differences, no uniform procedures may be outlined for use in all States. Each State Conservationist must determine the proper procedure to be followed to assure strict compliance with local laws, procedures and regulations. It is important that good working relations be maintained between the office of the State Conservationist and the State Engineer or other appropriate State officials or agencies.

It is the responsibility of the State Conservationist to determine that the requirements of this section have been fulfilled prior to providing financial assistance in the installation of any structural works of improvement.

SECTION 15

PROPERTY RIGHTS AND RESPONSIBILITIES

I. RESPONSIBILITY FOR ACQUISITION OF NECESSARY LEGAL INTERESTS IN LAND

The Act specifically requires that local organizations shall "acquire without cost to the Federal Government such land, easements, or rights-of-way as will be needed in connection with works of improvement installed with Federal assistance." This requirement prohibits the use of Federal funds for acquiring any interest in land, easements, or rights-of-way or conducting the negotiation for such rights. See Section 7 of the handbook for criteria for determining the costs of land, easements, or rights-of-way.

A. Ownership of land or interests in land required for installation of works of improvement.

Any interest in land required for works of improvement (including fee simple title, easements, and installation permits) usually will be taken in the name of the local organization, or one of the local organizations, that has executed the watershed work plan agreement. In no case shall the interests be acquired in the name of the United States. In the event the sponsoring local organization requests that the interest in the land be taken in the name of a local organization other than the sponsoring local organization, the approval of the Administrator should be requested.

B. Minimum Service requirements for interest in land for the installation of works of improvement by the sponsoring local organization.

In order to protect the Government's interests, the following minimum requirements must be complied with prior to the installation of works of improvement.

1. How necessary rights will be acquired - Documents required.

Deeds conveying fee simple title, easements (Exhibit A), or installation permits (Exhibit B), should be obtained for all works of improvement.

a. Deeds conveying fee simple title.

Deeds conveying fee simple title to the sponsoring local organization may be secured in those instances where circumstances are such as to make this course of procedure desirable.

b. Easements.

Easements are the most commonly used form for granting land rights. Exhibit A is to be used as a guide for counseling with local organizations. The format is acceptable to the Service and Provisions 1 through 5 are very desirable from the Service's standpoint. Special provisions needed may be listed under Item 6 of the easement form.

The following requirements should be met:

(1) The area covered by an easement should be described in such a manner that its boundaries can be definitely established. Rights of ingress and egress oftentimes are not too clearly described in the easement but the actual right-of-way is established by working with the landowner at such time as the need arises. Easements, however, describing the area in general terms are acceptable in some States. Such general descriptions are normally confined to non-sectionalized States. In those instances where the area is to be defined in general terms, the following language may be used as a guide:

Lands of the landowner described in that (those) certain deed(s) dated _____, by and between _____, grantor(s) and _____, grantee(s) and recorded in Deed Book No. _____, Page _____.

For the installation, operation, maintenance and inspection of works of improvement, consisting of a floodwater retarding structure, with floodwater pool, spillways, borrow areas and such necessary appurtenances to be located upon the described land along the _____ Creek (River) traversing the _____ (easterly) _____ portion thereof at a point approximately _____ feet _____ (north) _____ of the intersection of said _____ Creek (River) and the easterly boundary line of the described land of the landowner.

If the landowner objects to such general language then it will be necessary to make an actual survey at non-Federal expense.

(2) After an easement has been duly executed in accordance with State law (this includes acknowledgments), it should be promptly recorded in the public land records of the county in which the land described in the easement is situated.

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(3) There should be reasonable assurance that the party, or parties, who sign an easement own the land. If there is any question as to the ownership of the land a title search and examination should be made.

(4) It should be pointed out to the local organization acquiring the interest in lands the desirability of obtaining the consent of the holders of any mortgage, deed of trust, or other liens, outstanding against the land. They should be advised to consult their attorney before deciding to acquire interest in lands without such consent.

c. Installation Permits.

Installation permits may be used for land treatment measures for flood prevention where the benefits accrue substantially to the landowner on whose land such measures are installed, and where the maintenance is very nominal and to be assumed by the landowner.

Installation permits need not be acknowledged, recorded, or title search examination made.

C. Soil Conservation Service assistance in matters relating to the acquisition of interests in land.

1. General assistance.

The Service may render assistance in (1) delineating the proper site for works of improvement on the ground; (2) advising as to the necessary rights to be acquired, and (3) counseling with local organizations as to the terms and conditions and format of easements.

2. Service responsibility to review instruments granting rights in land.

The Service should work with the sponsoring local organization in developing acceptable easement forms following Exhibit A as a guide prior to their entering into negotiations with landowners. Such easement forms must be approved by the State Administrative Officer. (See Administrative Services Division Memorandum No. 17.) Whenever special provisions required by the Service, the sponsoring local organizations, or the landowner are included in easement forms, copies of such easements shall be submitted to the Service for review and approval prior to their acceptance and recording by the local sponsoring organizations. The local organizations should attach to their certification two copies of such easements or an abstract of the additional terms and conditions or special provisions. One copy should be forwarded to the appropriate Engineering and Watershed Planning Unit to be studied in connection with design work.

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a. Steps to be taken where documents vary from standard pattern.

Where the easement or installation permit contains additional provisions to those included in the form recommended for use by the Service, such additional provisions may be approved by the State Administrative Officer when there is no doubt as to their effect.

If there is doubt as to the effect of such additional provisions, the proposed form should be submitted to the attorney-in-charge of the appropriate field office of the Office of the General Counsel for an opinion as to its legal sufficiency for the purpose intended. If the changes involve Service or Departmental policy and not the legal sufficiency of the instrument, the proposed form should be submitted to the Washington Office for approval.

3. Certification that necessary rights have been acquired - Documents required.

The local organization responsible for acquiring land and rights-of-way will be required to execute the certificate, Form SCS-78, Exhibit C. This certificate must be properly executed by the local organization and furnished to the Service in the original and two copies prior to issuance of the Invitation to Bid. The State Administrative Officer will not be required to examine the individual documents on which the certificate is based.

The Project Agreement for Construction of Works of Improvement should contain a provision which will provide for the local organization to accept full financial and any other responsibility for any excess installation costs resulting from the failure of the local organization to obtain adequate land rights. This factor should be impressed on the local organization to stimulate assurance by the local organization that adequate land rights are obtained, checked, and properly recorded, and to focus the attention of the local organization on their need for services of qualified legal counsel in these matters.

II. MULTIPLE USE OF FACILITIES

A. Recreation and Wildlife

General public utilization of recreational opportunities that develop incidental to or are planned as a part of the project should be encouraged where feasible. However, Federal funds may not be used in the installation of the facilities necessary for such utilization.

The sponsoring local organization should consider and it should be advised as to the potential uses for recreation which may result from

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the installation and operation of works of improvement. Such advice should be consistent with operation and maintenance requirements and with proper safety and the protection of property. Whenever feasible, recreational use should be made available to the general public and any income derived therefrom should be recommended for use by the sponsoring local organization for operation and maintenance purposes. When areas are to be made available to the general public, appropriate provisions for their use and control should be included in the easement by which the interest in land is acquired.

III. USE AND POSSESSION OF STRUCTURES AND IMPOUNDED WATER

A. Structures

The local organization must have the full right to construct, operate, and maintain the structures including the right of use and possession of the structures. Such rights, of course, would be in the local organization where it acquires the fee simple title. Normally, a general easement, such as one obtained by the use of Exhibit A, would give to the local organization these rights. The landowner whose land is affected by the easement still owns the base title to the land but he could not exercise his right in a manner which would interfere with the continued use and possession, or the operation and maintenance, of the structure. In addition to the general provisions, specific conditions that the landowner must observe should be described as special provisions in the easement form.

B. Water

The use of water and water rights is governed by State laws. The State law relating to water should be thoroughly checked to determine what special provisions need to be included in easements to provide for appropriate use and disposition of water. Special provisions may also be needed in easements to provide for use and disposition of water in addition to that provided for in connection with the operation of the structure. Such provisions must be developed with care and described in detail as special provisions in the easement form. The entire easement form should be examined to be sure that all necessary rights are covered. In cases of doubt, the assistance of the attorney-in-charge of the appropriate field office of the Office of the General Counsel should be sought.

IV. RESPONSIBILITY IN CASE OF FAILURE

In case of failure of works of improvement the legal responsibility will have to be determined by the actual facts in the case. Normally the Federal Government is not legally responsible. Such responsibility

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will ordinarily rest with the local organization in whose name the interest in the land is taken and/or the operation and maintenance agency. It is accordingly highly essential that a sufficient and effective plan of operation and maintenance be arranged.

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EXHIBIT A

EASEMENT

THIS INDENTURE, made this _____ day of _____, 19_____, by _____, hereinafter referred to as the Landowner, and _____ of _____, hereinafter referred to as the Local Organization,

WITNESSETH THAT:

WHEREAS, the Secretary of Agriculture, United States Department of Agriculture, is authorized by the Watershed Protection and Flood Prevention Act to carry out a program of assistance to local organizations in planning and installing works of improvement for flood prevention or the conservation, development, utilization and disposal of water, and

WHEREAS, the Local Organization is cooperating in said program for the purpose of installing a project in the _____ watershed, State of _____, in connection with which it desires to secure certain rights, in, over and upon the hereinafter described land of the Landowner,

THEREFORE, for and in consideration of One Dollar (\$1.00) and the benefits accruing to the Landowner from the installation of said project, and other good and valuable considerations, the receipt whereof is hereby acknowledged, the Landowner does hereby grant, bargain, sell, convey and release unto the Local Organization an easement in, over and upon the following described land situated in the County of _____, State of _____, to-wit:

For the installation, operation, maintenance and inspection of the following described works of improvement and for the storage of waters that may be impounded by any dam or other reservoir structure described below:

1. The Local Organization shall be responsible for operating, maintaining, and keeping in good repair the works of improvement herein described.
2. The Landowner reserves the right to use said land or any part thereof at any time and for any purpose, provided such use does not interfere with the full enjoyment by the Local Organization of the easement herein conveyed.

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3. This easement shall include the right of ingress and egress at any time over and upon said land and any adjoining land owned by the Landowner.
4. The easement herein conveyed shall be subject to any easements, rights-of-way, or mineral reservations or rights now outstanding in third persons.
5. In the event (a) the works of improvement herein described are not installed on said land within _____ months¹ from the date hereof, the rights, privileges, and authority granted hereunder to the Local Organization shall be terminated.
6. Special Provisions:

For example,

- a. The Landowner agrees not to use, graze, or permit cutting of grass on or within the area of the dam (or other improvements) enclosed by wire fence except upon written permission of and upon the terms specified by the authorized representative of the sponsoring local organization.
- b. The Landowner agrees not to place any screen or other obstruction around the outlets installed in the dam.

IN WITNESS WHEREOF, the Landowner has executed this instrument on the day and year first above written.

(
(
(

{
(
(

(Certificate of Acknowledgment)

1/ The period should ordinarily extend until at least the projected completion date of the entire project.

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EXHIBIT B

INSTALLATION PERMIT

The undersigned, _____
hereinafter called the Landowner, hereby grants permission to _____
hereinafter called the Local Organization, for the installation of the
following works of improvement

on the following described lands

subject to the following conditions:

1. Installation of said works of improvement shall be completed within _____ months from the date of this permit.
2. This permit shall include the right of ingress and egress at any time over and upon said lands and any adjoining lands owned by the Landowner.
3. Operation and maintenance of the described works of improvement will be by the Landowner in accordance with appropriate agreement with the Local Organization.

Date-of-Permit

(Signature of Landowner)

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CERTIFICATION

RELATING TO

LAND, EASEMENTS OR RIGHTS-OF-WAY, CONSERVATION
MEASURES AND WATER RIGHTS FOR _____

_____ WATERSHED

STATE OF _____

The undersigned _____
(Local Organization)

and _____
(Local Organization)

(hereinafter referred to as the Sponsoring Local Organization) having agreed under the Watershed Protection and Flood Prevention Act to a watershed work plan for the above designated watershed, hereby certifies that:

1. The Sponsoring Local Organization has acquired all permits and the full legal title to all land, easements, or rights-of-way needed for the installation, operation, maintenance and inspection, in accordance with the terms, conditions, and stipulations provided for in the above watershed work plan, of the following works of improvement which are described in said work plan:

(Describe briefly)

2. The legal instruments by which the Sponsoring Local Organization has acquired title to said land, easements, or rights-of-way, (a) have each been duly signed and acknowledged by all parties having an interest in the legal title to the land affected thereby, (b) have each been properly recorded in the appropriate public land records of each county in which any of the land affected thereby is situated, and (c) are fully adequate to meet the responsibilities placed on the Sponsoring Local Organization by the Watershed Protection and Flood Prevention Act and by the above watershed work plan in respect to the acquisition of the land, easements, or rights-of-way needed in connection with the above described works of improvement.

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3. The Sponsoring Local Organization has obtained agreements to carry out recommended soil conservation measures and proper farm plans from owners of not less than 50% of the lands situated in the drainage area above each retention reservoir to be installed with Federal assistance.
4. The Sponsoring Local Organization has acquired, or submit the attached assurance that the landowners or water users have acquired, necessary water rights, pursuant to State law, as may be needed in the installation and operation of the works of improvement.
5. Copies of all easements are attached which have additional terms or conditions or special provisions not contained in the easement form approved by the Service (in lieu of copies of easements an abstract of the additional terms or conditions or special provisions may be attached).
6. **Exceptions:**

List such items as utilities, fences, etc., which have not been relocated or removed from rights-of-way and arrangements made for such removal or relocation, and indicate time such work will be accomplished.

(Local Organization)

By: _____

Title: _____

Date: _____

(Local Organization)

By: _____

Title: _____

Date: _____

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

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SECTION 16

COOPERATION WITH STATE AGENCIES, LOCAL ORGANIZATIONS AND OTHER GROUPS

The Act provides that local organizations must initiate, carry out, operate, and maintain each watershed project. All concerned State and local agencies and informal groups such as watershed associations, and civic, farm and sportsmen's organizations, should be kept currently informed on the developments of the project. Assistance from any and all of these sources should be sought whenever it will facilitate the formulation and accomplishment of project objectives. The sponsoring local organizations should take the leadership in this important phase of the project development. The Service will assist by providing such technical and other guidance as may be useful to the sponsors.

The State and local agencies and informal groups should be encouraged to take the following actions as part of their cooperation towards carrying out projects:

A. State Agencies

1. Take the leadership in developing such enabling legislation as may be necessary for the successful installation, operation and maintenance of watershed projects.
2. Make any basic data available that will be useful in developing the work plan.
3. Provide guidance as to the types or designs of works of improvement that will be acceptable to the State.
4. To the extent their interest justifies, participate in the informal review of the tentative work plan.
5. Furnish confirmation of the fact that the sponsoring local organization has complied with applicable State laws pertaining to water rights and that the plans for structural works of improvement are in accordance with applicable State laws.

B. Local Agencies

1. Make available all applicable basic data to which they have access. This includes information on principal floods, damages, location of improvements installed to relieve the problems and information on how they were installed and maintained and information on any proposed works of improvement.

2. Designate an individual with whom the sponsoring local organizations and the Service can work.

3. Through public meetings, news items, etc., keep the local people informed of:

a. Objectives of the project and what works of improvement are planned.

b. The difficulties in meeting local obligations such as:

(1) Planning and application of land treatment measures.

(2) Land, easements and rights-of-way.

(3) Water rights.

(4) Cost-sharing.

(5) Administration of contracts.

(6) Operation and maintenance.

(7) Compliance with State laws.

(8) Cooperation with other agencies.

c. Progress

(1) Planning.

(2) Installation of works of improvement.

4. Provide funds, services or facilities to assist the sponsoring local organizations in planning, carrying out and operating and maintaining the project.

5. Provide assistance in the installation of land treatment measures through the furnishing of equipment and the adjustment of taxes on property where the conservation work directly reduces the need for expenditure of public funds.

C. Informal Groups

1. Designate an individual to serve as liaison representative to disseminate information and provide cooperation of the group.

2. Incorporate as part of their regular activities such things as discussions, tours, and motion pictures for acquainting people in the watershed with the objectives of the program and their obligations.

3. Sponsor promotional activities to intensify interest in and to accelerate the installation of land treatment measures in the watershed.

SECTION 17

ENGINEERING SERVICES

I. GENERAL

There are three ways in which non-Federal professional engineers may be brought into the watershed protection and flood prevention program. They are:

(1) The Service may negotiate contracts with private professional engineers in those cases where Service engineers are not in a position to perform the work in accordance with established time schedules or where specialized consultants are needed to supplement Service resources.

(2) The local organization may retain or employ professional engineers satisfactory to the Secretary for engineering services needed in connection with the installation of works of improvement for the purposes of flood prevention and agricultural water management. Where local organizations maintain an engineering staff, their staff, when meeting the Secretary's requirement for professional engineers, may be used to provide for such service. The scheduling of reimbursement to the local organization will be negotiated.

(3) The local organization must retain or employ professional engineers satisfactory to the Secretary for engineering services needed in connection with the installation of works of improvement for other than flood prevention and agricultural water management.

II. ENGINEERS SATISFACTORY TO THE SECRETARY

The Administrator of the SCS has been assigned the Secretary's responsibilities cited above. The terms "professional engineer" and "competent engineer" contained in the Act are considered synonymous. In order to be satisfactory to the Secretary, all of the following conditions must be met:

(1) The engineer must be registered in the State in which the construction is to be undertaken and be properly authorized to practice engineering in compliance with the laws of the State. In those States where registration is not required, the engineer or organization shall have demonstrated its ability to properly carry out the work.

(2) He, or competent professional members of his staff, must have had satisfactory experience in the phase of engineering work to be undertaken.

(3) He must have the facilities and a staff competent to perform the work in the specified time.

(4) Cost of such services must be reasonable when compared to the cost of doing work with Service engineers giving due consideration to the differential existing between private and public costs. This latter provision is not applicable when the local organization provides the engineering services without reimbursement.

III. RESPONSIBILITIES OF THE SERVICE

To carry out its responsibilities, the Service through the State conservationist will:

(1) Approve all professional engineers employed by local organizations in accordance with the above criteria.

(2) Establish the engineering criteria to be used by professional engineers who provide engineering services for the installation of works of improvement to insure that the project meets the need and is in conformance with Service standards.

(3) Approve all plans and specifications and inspect all construction to the extent required to insure that the work meets the specifications, as a condition for providing financial assistance in the installation of works of improvement.

(4) Assist the local organization to locate professional engineers satisfactory to the Service when they desire or are required, in the case of nonagricultural water management, to obtain non-Federal engineering services.

(5) Recommend that professional engineers retained by the sponsoring local organization accept, where feasible, the responsibility for developing the complete construction plans and specifications for multiple-purpose structures which include features requiring the employment of professional engineers. Service engineers will work with such professional engineers in insuring that the requirements of flood prevention and agricultural water management are incorporated in the plan.

IV. REIMBURSEMENT AND ADVANCES

A. The cost of all engineering services chargeable to flood prevention will be borne by the Federal Government. The cost of engineering services pertaining to agricultural water management may be borne by the Federal Government provided that the total cost allocated to the

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Federal Government for agricultural water management exceeds this cost. The cost of engineering services chargeable to any other water resource development, for example, industrial or municipal supply, must be assumed by the sponsoring local organization. Where a single work of improvement is planned to serve more than one purpose, an allocation of costs to each of the purposes shall be made. The engineering costs shall be computed in the same ratio as is established for allocation of installation costs to the purposes for which the structure is built.

B. When the sponsoring local organization utilizes the services of professional engineers on work allocated to flood prevention, the Service will reimburse the local organization for the cost of such services and in the case of agricultural water management may reimburse the local organization for such services. Agreements will be reached as to the total engineering costs to be borne by the Federal Government prior to the time commitments are made for engineering services by the local organization. Reimbursement for services of professional engineers will only be made for engineering work involved in the installation of works of improvement. Local organizations are not eligible for reimbursement for any engineering services that might be provided during the work plan stage.

C. Advances for engineering services may be made to the local organizations but such advances are limited by the Act to not more than 5 percent of the estimated total cost of the works of improvement for which such services are provided. Total cost is the installation cost as defined in section 7 of this Handbook.

V. PROVIDING ENGINEERING SERVICES

A. By Local Organizations

The furnishing of engineers by local organizations does not relieve the Service of the responsibility of seeing that Federal funds are properly expended. The Service will make the necessary checks required to insure that cost estimates are accurate and all surveys, designs, and construction work is consistent with Service standards. The State Conservation Engineer, in collaboration with the Engineering and Watershed Planning Unit, should keep in close touch with all details of the engineering work. All engineering work done by professional engineers retained by local organizations will require the formal approval of the Service before any construction work is initiated.

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B. By Soil Conservation Service

Contracts will not be negotiated for development of a complete work plan. The development of such a plan requires coordination in the technical fields of engineering, soils, agronomy, geology, biology, economics, etc. Service personnel shall perform this function.

Some types of engineering work which might be contracted for by the Service in the planning stages prior to authorization for installing works of improvement are topographic maps of reservoir areas, stream channel profiles, valley cross sections, layout and preliminary structural design, and cost estimates for structural measures.

In the operations stage after project authorization, contracts by the Service or by the local organization may include the complete design of all or a portion of the structural measures including necessary field work and preparation of specifications. Contracts may also be let for any phase of engineering work needed in the development of complete construction plans and specifications.

It should be kept in mind that the development of plans and specifications for a given structure or project is an integrated operation involving a close working relationship between field engineers, hydrologists, geologists, and hydraulic and structural engineers. When a portion of the job is to be contracted, this relationship and the timing of the various operations required to produce the final plan should be carefully considered. Improper scheduling of the various operations of a given job when handled by two different administrative units, the professional engineers and the Service, will lead to serious difficulties.

A realistic cost estimate including performance time should be prepared for the engineering work to be contracted. In preparing the estimate, full consideration should be given to any engineering survey, engineering data, geologic information, hydrology, etc., that may be provided for use of the professional engineer to carry out his assignment. In contracting for an engineering job the information supplied the engineering firm by the Service may be an important item in the cost of the work. As outlined in the procedure for negotiating contracts for engineering service, the code of ethics of engineers does not permit competitive bidding for engineering services. In order that the Service be in a position to negotiate or advise local organizations in negotiating contracts successfully, it is essential that the cost estimate represents the true costs involved in the conduct of the operation.

Close working arrangements should be established by State and Engineering and Watershed Planning Unit offices with firms and engineers performing engineering services under this type of contract. It is the

policy of the Service for the State Conservation Engineer to be responsible for the preparation of technical specifications and estimates and to work very closely with the Engineering and Watershed Planning Unit in all matters pertaining to this phase of the work. It is recognized that practically all engineering organizations are unfamiliar with the type of engineering work handled by the Service. Thus the State Conservation Engineer working with the Engineering and Watershed Planning Unit should work closely with the contractor during all stages of the development of plans and specifications. This relationship is basic to insure that plans and specifications meet Service technical standards and the over-all job requirements. All engineering work carried out under a negotiated contract shall be approved by the Service prior to acceptance and completion of the contract.

The detailed procedure for negotiating contracts is contained in Section 13.

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SECTION 18

COOPERATION WITH OTHER FEDERAL AGENCIES IN PLANNING

I. THE ACT

The Act authorizes the Secretary of Agriculture to obtain the co-operation and assistance of other Federal agencies in preparing plans for works of improvement. It requires him to submit any such plan, involving an estimated Federal contribution to construction costs in excess of \$250,000 or containing any structure having a total capacity in excess of 2,500 acre-feet, which includes reclamation or irrigation works or which affects public or other lands or wildlife under the jurisdiction of the Secretary of the Interior to the Secretary of the Interior, or which includes Federal assistance for floodwater detention structures to the Secretary of the Army, respectively, for his views and recommendations at least thirty days prior to transmission of the plan to the Congress through the President.

II. EXECUTIVE ORDER 10584

Executive Order 10584 makes the Secretary of Agriculture responsible for notifying the Secretary of the Interior, the Secretary of the Army, and other concerned Federal agencies, in writing, of all approvals or disapprovals of applications for planning assistance and of his decision to initiate any survey or field investigation involving water-resource development work; for furnishing the Federal agencies concerned with appropriate information regarding the scope, nature, status, and results of such survey or investigation; for submitting plans for works of improvement to the Federal agencies concerned for review and comment; and for consulting with the Tennessee Valley Authority with respect to any survey or field investigation involving water-resource development work in the Tennessee Valley.

III. DEPARTMENT POLICY

Department policy provides that work undertaken and performed under the Act is to be to the fullest possible extent in harmony with related work of other Federal agencies; that there shall be the fullest possible cooperation with other Federal agencies which have undertaken or may undertake responsibilities in the field of land and water management; and that the Administrator of the Soil Conservation Service will inform and cooperate with other Federal agencies in providing authorized Federal assistance.

A. The Administrator of the Soil Conservation Service will notify, in writing, the Secretaries of the Interior; Army; Health, Education and

Welfare; Commerce; and Labor, and the Chairman of the Federal Power Commission of all approvals or disapprovals by the Administrator of applications for planning assistance from qualified local organizations.

B. Customary procedure of the Inter-Agency Committee on Water Resources will be followed in notifying appropriate field representatives of concerned Federal agencies when an investigation or survey is to be initiated in connection with preparation of a plan for works of improvement for a watershed following approval of an application for assistance from a local organization. The State Conservationist will advise concerned Federal agency field representatives, in writing, of his intent to start preparation of a plan for works of improvement for each such watershed in his State, furnishing brief information about the scope and nature of the investigation, asking to be advised in writing within 30 days of any interest the other Federal agency may have in the watershed and plan, and inviting the submission of or reference to data the other agency may have or know of that might be pertinent to or useful in preparing the plan.

C. The State Conservationist will afford local representatives of interested Federal agencies every reasonable opportunity to participate in and contribute to work plan preparation so as to help assure that works of improvement included in work plans are to the fullest possible extent in harmony with related work of other Federal agencies. Drafts of work plans before their completion will be reviewed informally with field representatives of other interested Federal agencies. Copies of work plans as submitted to the Administrator, SCS, for final approval will be furnished by the State Conservationist to those representatives to facilitate inter-agency review at the same time, or for information. (Refer to Section 4.)

D. The Administrator of the Soil Conservation Service will transmit to the Secretaries of the Interior, Army, and other interested Federal agencies copies of each work plan involving an estimated Federal contribution to construction costs in excess of \$250,000 or containing any structure having a total capacity in excess of 2,500 acre-feet for their views and comments thirty days prior to transmission of the plan to the Congress through the President. In each case where a work plan includes reclamation or irrigation works or which affects public or other lands or wildlife under the jurisdiction of the Secretary of the Interior or which includes Federal assistance for floodwater detention structures, the transmittal letters to the Secretaries of the Interior and of the Army, respectively, will call attention to the fact and will point out that the plan is being transmitted in accordance with the provisions of the Act. Copies of any comments received within thirty days will accompany the plans when transmitted to the Congress through the President. The Administrator will provide copies of all other plans to the Heads of concerned Federal agencies for information after such plans are approved.

E. The State Conservationist will consult with the Tennessee Valley Authority with respect to development of a plan for works of improvement for any watershed located within the Tennessee Valley at the time of initiation of the investigation and survey and subsequently as seems appropriate.

F. When technical services of a special nature not available within the Soil Conservation Service are needed, they may be obtained, if available, under appropriate memorandum of agreement with specialist agencies such as the U. S. Geological Survey, Weather Bureau, or Agricultural Research Service. Special services from the Fish and Wildlife Service will be obtained in accordance with the Memorandum of Understanding between that agency and the Soil Conservation Service and Administrator's Memorandum SCS-87. Such services will be paid for by the Service from funds available under the provisions of the Act in accordance with applicable agreements with each agency.

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SECTION 19

OPERATION AND MAINTENANCE

I. GENERAL

Before Federal assistance is provided for the construction of works of improvement, the sponsoring local organizations shall sign an agreement satisfactory to the Administrator, which shall include arrangements for defraying the cost of operating and maintaining such works of improvement. Works of improvement eligible for Federal assistance are described in Section 5 of this handbook.

A. Non-Federal Lands

1. The sponsoring local organization is responsible for the operation and maintenance of all works of improvement on non-Federal lands. It shall make arrangements for defraying all costs of operation and maintenance.

a. Structural measures on non-Federal lands are ordinarily operated and maintained by a sponsoring local organization. If, after Federal assistance is authorized for carrying out a watershed project, it is found that local organizations other than those signing the watershed work plan agreement will participate in operating and maintaining works of improvement, such local organizations should become co-sponsors of the watershed project. If agencies which are willing to operate and maintain works of improvement are unable or unwilling to become project sponsors, an operation and maintenance agreement satisfactory to the Service will be executed between such agencies and the sponsoring local organization, and a signed copy shall be attached to the operation and maintenance agreement signed by the sponsoring local organization and the Service.

b. Land treatment measures on non-Federal lands will be operated and maintained by landowners and operators:

(1) Under agreement with soil conservation districts, where districts exist; or

(2) Under agreements acceptable to the Administrator in non-district areas.

B. Federal Lands

1. The Federal agency administering the lands is responsible for the operation and maintenance of all works of improvement on Federal lands.

a. Structural measures on Federal lands will be operated and maintained by the Federal Government, the sponsoring local organizations, or both, as determined by mutual agreement. Costs of operation and maintenance will be shared by mutual agreement in accordance with the accrual of benefits to Federal and non-Federal land. Arrangements for operation and maintenance must be covered by an agreement between the Federal agency administering the lands, the sponsoring local organization, and the Service where benefits accrue to non-Federal lands.

b. Land treatment measures on Federal lands will be operated and maintained by the Federal agency administering such lands, using funds available under authorities other than the Act after the project installation period.

II. ASSUMPTION OF OPERATION AND MAINTENANCE

The assumption of the operation and maintenance of works of improvement takes place simultaneously with acceptance of the work from the contractor. (A job may be completed with the exception of small items such as seeding or sodding which completion might require an extended period of time. In such cases the maintenance should be assumed by the sponsoring local organization subject to the completion of such work.) No action, such as an exchange of letters, need be taken where works of improvement are constructed under a contract awarded by a sponsoring local organization.

III. OPERATION AND MAINTENANCE AGREEMENTS

A. Execution of Agreement

An operation and maintenance agreement, or agreements, covering those works of improvement described in a project agreement must be executed prior to the issuance of invitation to bid. The agreement will be executed on behalf of the Soil Conservation Service by the State Conservationist.

B. Form of Agreement

A suggested format for these agreements is included at the end of this section. The following items, together with any other applicable items, should be covered in the agreement:

1. A description of the works of improvement to be operated and maintained.

2. Operation. What, how, and when operation is to be performed. The work of improvement must be operated in such a manner to assure that it will perform the functions for which it was designed.

Where there are multiple uses the operation for each should be outlined. The agreement must also contain the operating rules and regulations of the Soil Conservation Service or of the State water management agency, or both, and other agencies if pertinent.

3. Inspections. A schedule for making periodic and special inspections, a list of items to be inspected, and the technical assistance the Service will make available for assisting with these inspections.

4. Estimated annual costs. This should be based on present construction costs and should be so stated. These cost estimates may be listed according to kinds of maintenance work.

5. Statement of the method that the local organization will use for doing the operation and maintenance work.

6. Statement of how funds will be obtained and provided for operation and maintenance work.

7. Statement covering the right of free access of Government representatives to inspect facilities at any time.

C. Distribution of Agreement

After the operation and maintenance agreement is executed by the State Conservationist, copies will be furnished to the Area Conservationist, Engineering and Watershed Planning Unit, and the Administrative Services Division in Washington.

IV. INSPECTIONS

Inspections will be made by the sponsoring local organization as frequently as necessary, at least annually, to determine operation and maintenance needs. The Service will participate in operation and maintenance only to the extent of (1) furnishing technical assistance to aid in inspections and (2) furnishing technical design information necessary for the operation and maintenance. The Service is responsible for making periodic checks, at least annually, to see that adequate operation and maintenance is being performed according to agreements. It is desirable that these inspections be made with representatives of the organization(s) responsible for operation and maintenance, but they can be made separately if necessary. When the operation and maintenance is not being carried out according to the agreement, the matter will be brought to the attention of the sponsoring local organization by the State Conservationist.

V. INSPECTION RECORDS AND REPORTS

A. Records

The sponsoring local organization will maintain a record of operation and maintenance inspections and maintenance performed and have it available for inspection by Soil Conservation Service personnel.

B. Reports

The State Conservationist will designate the employee to make the Government inspections. This employee will prepare a written narrative report setting forth his findings. Copies of this report should be furnished to the State Conservationist for distribution to the Area Conservationist, the Engineering and Watershed Planning Unit and the Administrative Services Division in Washington.

WATERSHED PROTECTION
OPERATION AND MAINTENANCE AGREEMENT

THIS AGREEMENT made and entered into this _____ day of _____,
19____, by and between _____ 1/ _____, hereinafter
referred to as " _____ 2/ _____ ", and the _____
_____, hereinafter referred to as the
"Sponsoring Local Organization", relates to the operation and maintenance
of the following described works of improvement:

3/

The parties hereto agree as follows to the OPERATION of the above de-
scribed works of improvement:

1. The " _____ 2/ _____ " will:
2. The "Sponsoring Local Organization" will:

The parties hereto agree as follows to the MAINTENANCE of the above de-
scribed works of improvement;

1. The " _____ 2/ _____ " will:
2. The "Sponsoring Local Organization" will:

No Member of or Delegate to Congress, or Resident Commissioner shall be
admitted to any share or part of this agreement or to any benefit to
arise therefrom. This provision shall not be construed to extend to this
agreement if made with a corporation for its general benefit.

(Signature lines preceded by the name
of the agency, organization, etc.)

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- 1/ When the agreement is between the Service and the Sponsoring Local Organization, insert "Soil Conservation Service, United States Department of Agriculture." When the agreement is between the Sponsoring Local Organization and another local organization, insert the name of the latter.
- 2/ When the agreement is between the Soil Conservation Service and the Sponsoring Local Organization, insert "Service". When the agreement is between the Sponsoring Local Organization and another local organization, insert the short title of the latter.
- 3/ Describe and locate the works of improvement.

SECTION 20

FIELD COST ESTIMATES, BUDGETING, FUND
ALLOCATION AND MANAGEMENT, AND DISBURSEMENTS

I. FIELD COST ESTIMATES AND BUDGETING

The following paragraphs explain the relation of field cost estimates to the Service's annual budget estimates:

A. Field estimates are prepared by responsible field offices in cooperation with the sponsoring local organization to show field operations planned for a specific fiscal year. Table 1 of the work plan is designed to provide an estimate of the kinds and amounts of works of improvement planned for installation in the project and their total estimated cost, P. L. 566 Funds and Other. Field estimates are submitted on Table 1 forms and titled "Supplemental Table 1 - Field Cost Estimates". The field cost estimates on Supplemental Tables 1 are not a part of the work plan. They are submitted after the project is approved for operations and provide information needed for the preparation of budget estimates and the allotment of Watershed Protection funds. The supplemental Tables 1 are designed to provide an estimate of the kinds and amounts of works of improvement and their estimated costs, P. L. 566 Funds and Other, scheduled by fiscal years. The totals of the combined supplemental Tables 1 should not exceed the totals on Table 1 of the work plan unless prior approval has been obtained from the Administrator.

B. The costs of project investigations, preparation of work plans and related expenses incurred prior to the approval of the project for Federal assistance in works of improvement will be obligated against funds specifically allocated for those purposes and, therefore, will not be shown on Table 1 of the work plan.

C. Budget estimates submitted to the Department, the Bureau of the Budget, and the Congress must be based on work that is reasonably certain of accomplishment if the funds requested are made available. These annual budget estimates are generally required to be submitted by the Service to the Department more than a year in advance of the date on which the funds will be available. This will include for each appropriation item:

1. A statement of obligations of the current fiscal year as can best be estimated at the time.

2. An estimate for the succeeding year based on the best available information as to the action the Congress will take on the succeeding year's budget which is currently under consideration.

3. An estimate of needs for the next following, or "budget", year.

D. The field cost estimates shown in Supplemental Tables 1 are used in the above budget preparation process to determine what work could reasonably be expected to be done in the "budget" year. For example, field cost estimates for the fiscal year 1959 were due in the Washington Office in the spring of 1957. They show the planned use of Watershed Protection funds on specific projects.

E. Action on Service and Departmental budget estimates often requires changes to be made in field estimates. Operational changes also occur in the field. Funds appropriated frequently do not agree with the Department's budget estimates. These changes and differences require the rescheduling of planned work and corresponding changes in Supplemental Tables 1. Therefore, the preparation of field cost estimates is a continuing process throughout the life of a project which requires that Supplemental Tables 1 be kept current by periodic revision. Annual revision, except in unusual cases of major change in planned activities, will be adequate for this purpose. The annual revision will be made after firm obligations for the past fiscal year are available from the Washington Office.

II. INITIAL SUBMISSION OF SUPPLEMENTAL TABLES 1

A. A tentative schedule of operations should be developed concurrently with the final work plan. The sponsoring local organization and all Federal agencies participating in the watershed project should take an active part in developing and keeping this schedule current. The tentative schedule will serve as the basis for the preparation of the Supplemental Tables 1.

After a project is approved for operations, three copies of Supplemental Tables 1 will be submitted to the Washington office as follows:

1. The remainder of the current fiscal year.
2. The next or second fiscal year.
3. The next or third fiscal year.
4. Remaining to be done.

Allotments for the current fiscal year will be based on the estimates contained in the table for 1. above and will not be made until after this information is received in the Washington Office.

III. ANNUAL REVISION OF SUPPLEMENTAL TABLES 1

A. The Supplemental Tables 1 will be revised annually, beginning with the first fiscal year after the fiscal year in which the project was approved for operations and each year thereafter during the life of the project. The annual revision will include the following:

1. Fiscal year just passed (total obligations).
2. Current fiscal year.
3. Next fiscal year.
4. Next fiscal year.
5. Remaining to be done.

Due to changing prices and increased construction costs, etc., it may become necessary and desirable to revise the estimated total Federal cost. When it is evident that the estimated total P.L. 566 cost will exceed that in Table 1-Estimated Project Installation Cost of the approved work plan, a request for approval of the revised estimated total P. L. 566 cost should be submitted, with justification, to the Administrator. After approval is obtained, Table 1 and corresponding form SCS-207 should be revised with the next annual revision of Supplemental Tables 1. The total estimated P. L. 566 cost should not be increased without the approval of the Administrator.

The annual revisions of Supplemental Tables 1 should be made in time to reach the Washington Office by February 1 of each year. Three copies of each Supplemental Table 1 are required by the Washington Office.

B. Quantities of structural measures and costs will be reported only in the fiscal year in which funds are obligated by a Project Agreement for Construction of Works of Improvement. When amendments to the agreement require additional funds in succeeding years to complete any structure previously reported, the additional cost will be shown in the fiscal year in which obligated. The costs of installation services will be shown in the year in which they are obligated.

IV. ALLOCATION AND MANAGEMENT OF FUNDS

A. At the beginning of each fiscal year allocation of Watershed Protection funds will be made after review of the watershed work plan and Supplemental Tables 1 for each project and consideration of amount of funds appropriated in relation to the budget request, carry-over funds available, progress made to date, priority category of work planned for installation, fund needs for large individual construction jobs, etc. Instructions for preparing Table 1 of the work plan (Section 23) provide for the addition of all estimated indirect P.L. 566 costs to the technical assistance and installation services items by agencies. Funds will

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be allotted to the State Conservationist of the State in which the projects are located after deduction of funds necessary to finance the appropriate share of Washington Office and E&WP Unit costs. The Administrator will advise the State Conservationist of the allocation of Watershed Protection funds by individual projects.

B. The State office will make appropriate charges to Watershed Protection funds allotted under Financial Project WP-2-2 and to each project for cost of salaries and expenses of all project, area, and program staff specialists incurred in working directly for the benefit of the project. Appropriate charges will also be made for State administrative costs incurred in servicing the projects, such as budgeting, accounting, personal services, contracting and related work. Cartographic services for the projects are procured on a reimbursable basis.

C. The Engineering and Watershed Planning Units will also maintain records, by project, of total obligations incurred against Watershed Protection (WP-2-2) funds and will report these obligations to the Washington Office at the end of the fiscal year. The costs of the Engineering and Watershed Planning Unit together with those secured through a pro-rata distribution by projects of the applicable costs of the Washington Office and other Washington maintained accounts will be furnished to the States at the end of each fiscal year. These overhead costs should be distributed, on a judgment basis, by the State to the Technical Assistance and Installation Services items in the annual revision of Supplemental Tables 1. These figures combined with the obligations at the State level will be the total project cost for that fiscal year.

D. It is the objective of the Service to use all of its appropriated funds in the most efficient and effective manner possible. The greatest possible advancement of the total program should be made each fiscal year. Sound fund management requires a periodic review of the planned installation program and analyses of the use of available funds. This will require periodic reports showing:

1. The need for additional funds to install the work planned for the current fiscal year.
2. Additional funds that could be used to install measures planned for the next fiscal year for which plans and specifications are now available and that could be contracted if such funds were available.
3. Funds that are not needed to install the work planned for the current fiscal year and available for withdrawal and allocation to other projects.

E. Changes in items 1 and 3 above may result from differences between cost estimates and allocated funds, cost estimates and contractors' bids, etc.

F. Funds available and not required for work planned for installation in a specific fiscal year should be made available immediately for withdrawal and use elsewhere to advance the total program. Small amounts withheld by one State may be just the additional amount needed to award a contract in another State.

V. DISBURSEMENTS

A. Since the sponsoring local organization awards the construction contract, it is responsible for the entire direct payment to the contractor. On the basis of a Watershed Work Plan Agreement between the Service and the local organization, long range budget plans will be formulated to provide for funds for the Service's agreed share of the cost of the undertaking. On the basis of Project Agreements for Construction of Works of Improvement covering each construction contract, the Service will obligate funds and make payments to the sponsoring local organization as segments of the work are completed and accepted as satisfactory by the Service representative (Section 13).

B. Where the Service agrees to the installation of the works of improvement by force account through the use of the sponsoring local organization's facilities, the Project Agreement for the Construction of Works of Improvement may commit the Soil Conservation Service to make payments to such organization for accepted segments of the work in a manner similar to that indicated above where the organization awards a contract for the construction.

C. Where the sponsoring local organization elects to employ engineers to provide engineering services for flood prevention or agricultural water management, the Service will obligate funds to reimburse the local organization for these purposes when a satisfactory agreement between the Service and the local organization is signed. The Service may advance up to five percent of the estimated total cost of the structural measures to the local organization for this purpose.

D. Federal funds will be made available to the local organization only under the conditions stated above. They will not be available for local organization to defray its cost of awarding and administering contracts except under the loan provisions of the Act.

E. Form SCS-49-a "Contract Payment Estimate", rather than Standard Form 1034 voucher or payee's invoice, will normally be used in making payments to the sponsoring local organization as specified in the agreement. The form must contain the following certificate signed by an authorized official of the organization to whom payment will be made:

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"I certify that the above bill is correct and just and that payment therefor has not been received."

F. Each form, as submitted to the State office for payment, should bear reference to the Project Agreement for the Construction of Works of Improvement between the Soil Conservation Service and the sponsoring local organization and be administratively approved by the Service representative accepting the work as satisfactory.

VI. WATERSHED COST DATA AND PROJECT ANALYSIS FORM SCS-207

A. Form SCS-207 (Revised), Watershed Cost Data (P.L. 566) will be prepared for Table 1 of each final work plan and submitted with it to the Administrator. Form SCS-207 is not required with the tentative work plan.

1. Forms SCS-207 will also be prepared for all revisions of Table 1 of the work plan that are made after the final work plan is submitted to the Administrator.

2. Form SCS-207 will be prepared for each initial Supplemental Table 1 (after the project is approved for operations) and for the annual revision of the Supplemental Tables 1.

3. The original and one copy of each Form 207 will be required by the Washington Office. A copy should be provided to the E&WP Unit, and additional copies prepared as required by the State office.

B. Instructions for completing SCS-207 are as follows:

SCS-207 Watershed Cost Data (PL 566): Heading "Fiscal Year ": Enter the year or "Total Project".

Heading "(Watershed Name) ": Enter the name of the project and State.

Column (A): Lines 3, 7, 12, and 19 are left blank and will be used to tabulate the estimated cost items of any other Federal agency that is indicated on Table 1 of the work plan and Supplemental Tables 1.

Column (B) "P.L. 566 Funds" and (C) "Other": Enter here the appropriate item from Table 1 of the work plan and Supplemental Tables 1. If the item does not appear in Table 1, the line will be left blank, except for items in lines 4 and 8 which are subtotals and are to be computed.

Column (D) "Total": This is a line by line addition of columns (B) and (C).

"Date": Enter the date of the initial Supplemental Tables 1. When the Supplemental Tables 1 are revised, these tables will also be revised and be dated the same as the revised Supplemental Tables 1.

C. Show the estimated cost of services to be provided by the E&WP Units on each Form SCS-207 by footnote to Item 27-Total-SCS under Summary.

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SCS-207
Revised

USDA-SCS

WATERSHED COST DATA (PL 566)

Fiscal Year: _____

(Watershed Name) _____			
	P.L. 566 FUNDS	OTHER	TOTAL
(A)	(B)	(C)	(D)
<u>LAND TREATMENT</u>			
<u>FOR WATERSHED PROTECTION:</u>			
1. Land Treatment SCS			
2. Land Treatment FS			
3.			
4. Subtotal			
<u>FOR FLOOD PREVENTION:</u>			
5. Land Treatment SCS			
6. Land Treatment FS			
7.			
8. Subtotal			
9. Total Land Treatment			
<u>STRUCTURAL MEASURES</u>			
10. SCS Subtotal			
11. FS Subtotal			
12.			
13. Total Structural Measures			
14. Total Construction Cost			
<u>INSTALLATION SERVICES</u>			
15. Engineering Services - SCS			
16. Other - SCS			
17. Total - SCS			
18. Total - FS			
19.			
20. Total Installation Services			
<u>OTHER COSTS</u>			
21. Land, Easements & Rights-of-Way			
22. Administration of Contracts			
23. Water Rights			
24. Total Other Costs			
25. Total Installation Structures			
26. Grand Total			
<u>SUMMARY</u>			
27. Total SCS			
28. Total FS			
29.			
30.			

Date _____

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WATERSHED PROTECTION HANDBOOK

SECTION 23

WATERSHED WORK PLAN - SAMPLE

Watershed work plans developed under the Act by local organizations with Service assistance should reflect general uniformity in concept and format in order to facilitate review. While first use is at the local level, it is equally important that the Governor or the authorized State agency, the Secretary of Agriculture, the Congress, and the President gain a real understanding of the watershed, its problems, and the plan for improvements.

The following sample or guide watershed work plan is provided to assist in the preparation of watershed work plans under the Act. It was prepared to illustrate an application of the principles set forth in Executive Order No. 10584, the policy statement of the Secretary of Agriculture, and the policies and criteria of the Soil Conservation Service as set forth in this Handbook. Recognition has been given to Circular A-47, Bureau of the Budget, in the preparation of this sample.

The watershed work plan will describe physical and economic conditions and other problems pertinent to an understanding of the need for the specific works of improvement desired by the local people and which meet legal and policy requirements and technical standards. It will provide an appraisal of results expected, estimates of cost, cost-sharing arrangements and how the improvements will be installed, operated, and maintained.

All works of improvement planned and installed under authority of the Act shall be designed and constructed in conformity with Service standards and procedures and with those of the State in which they are located. In addition, works of improvement installed on Federally owned land shall conform with the standards of the responsible land managing agency.

The sample watershed work plan does not give an example of the narrative material but does indicate the minimum detail which is to be covered under the several headings. When the inclusion of any additional information in the work plan or additional provisions in the Watershed Work Plan Agreement are considered desirable by the Service and the Sponsoring Local Organization, such additions may be included.

The narrative, tables and figures shown in the sample are needed for the use of the Washington Office, the Secretary of Agriculture, the President, and the Congress. When it is apparent that any optional table or figure is not needed in a particular watershed work plan, the table or

figure should be omitted rather than be included with no entry made. Pictures or other illustrative material may be included, if desirable, providing the additional cost involved is not excessive.

The work plan is divided into two sections:

The first section will present the story of the watershed, its conditions, problems, the action that has or will be taken to solve the problems, and the expected results. It will be directed toward obtaining widespread understanding and support of project objectives. It should be developed primarily by the local people with such guidance from the Service and others as is needed to insure general uniformity and technical accuracy of the work plan.

The second section will describe the investigations and analyses that were made for project formulation, together with such supporting data as are necessary to establish the technical adequacy of the plan.

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MEMORANDUM OF TRANSMITTAL

Paragraph II H. of Section 4 of this handbook outlines the procedures to be followed in the review and approval of watershed work plans. The memorandum from the State Conservationist to the Administrator transmitting and recommending approval of the final work plan should include statements indicating that the procedures for processing plans within the State have been observed, with the following supporting information attached to the memorandum:

1. Report on informal field review.
2. Copy of memorandum from Engineering and Watershed Planning Unit indicating technical concurrence in the plan.
3. Copies of any pertinent correspondence and letters of comment from concerned Federal agencies and the State.
4. Copies of endorsing resolutions of organizations or groups other than the sponsoring local organizations.
5. Copies of reports on reconnaissance or detailed studies undertaken by the Fish and Wildlife Service in accordance with the Memorandum of Understanding between that agency and the Service.
6. Two copies of Form 207.

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WATERSHED WORK PLAN

DAVID CREEK WATERSHED

Able and Baker Counties, Middlestate

(month and year)
Date

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WATERSHED WORK PLAN AGREEMENT

between the

Local Organization

*

Local Organization

Local Organization

State of _____
(hereinafter referred to as the Sponsoring Local Organization)

and the

Soil Conservation Service
United States Department of Agriculture
(hereinafter referred to as the Service)

Whereas, application has heretofore been made to the Secretary of Agriculture by the Sponsoring Local Organization for assistance in preparing a plan for works of improvement for the _____
_____ Watershed, State of _____,
under the authority of the Watershed Protection and Flood Prevention Act (Public Law 566, 83d Congress; 68 Stat. 666), as amended by the Act of August 7, 1956 (Public Law 1018, 84th Congress; 70 Stat. 1088); and

Whereas, the responsibility for administration of the Watershed Protection and Flood Prevention Act, as amended, has been assigned by the Secretary of Agriculture to the Service; and

Whereas, there has been developed through the cooperative efforts of the Sponsoring Local Organization and the Service a mutually satisfactory plan for works of improvement for the _____
_____ Watershed, State of _____,
hereinafter referred to as the watershed work plan, which plan is annexed to and made a part of this agreement;

*Delete spaces not needed.

Now, therefore, in view of the foregoing considerations, the Sponsoring Local Organization and the Secretary of Agriculture, through the Service, hereby agree on the watershed work plan, and further agree that the works of improvement as set forth in said plan will be installed, within _____ years, and operated and maintained substantially in accordance with the terms, conditions, and stipulations provided for therein.

It is mutually agreed that in installing and operating and maintaining the works of improvement described in the watershed work plan:

1. The Sponsoring Local Organization will acquire without cost to the Federal Government such land, easements, or rights-of-way as will be needed in connection with the works of improvement. (Estimated cost \$ _____.)
2. The Sponsoring Local Organization will acquire or provide assurance that landowners or water users have acquired such water rights pursuant to State law as may be needed in the installation and operation of the works of improvement.
3. The percentages of construction costs of structural measures and land treatment measures for flood prevention to be paid by the Sponsoring Local Organization and by the Service are as follows:

<u>Works of Improvement</u>	<u>Sponsoring Local Organization</u> (Percent)	<u>Service</u> (Percent)	<u>Estimated Construction Cost</u> (Dollars)
---------------------------------	---	-----------------------------	---

(List multiple-purpose structures separately. Single-purpose structures may be grouped by purpose when cost-sharing is the same for each structure in the group.)

The Sponsoring Local Organization will pay all of the costs allocated to purposes other than flood prevention, and irrigation, drainage, and other agricultural water management.

4. The Service will bear the cost of all installation services applicable to works of improvement for flood prevention. (Estimated cost \$ _____.)

The Service will bear _____ percent of the cost of installation services applicable to works of improvement for

agricultural water management and the Sponsoring Local Organization will bear _____ percent of the cost of such services. (Estimated cost \$ _____.) 1/

The Sponsoring Local Organization will bear the cost of all installation services applicable to works of improvement for non-agricultural water management. (Estimated cost \$ _____.)

5. The Sponsoring Local Organization will bear the costs of administering contracts. (Estimated cost \$ _____.)
6. The Sponsoring Local Organization will obtain agreements from owners of not less than 50% of the land above each floodwater retarding structure that they will carry out conservation farm or ranch plans on their land.
7. The Sponsoring Local Organization will provide assistance to landowners and operators to assure the installation of the land treatment measures shown in the watershed work plan.
8. The Sponsoring Local Organization will encourage landowners and operators to operate and maintain the land treatment measures for the protection and improvement of the watershed.
9. The Sponsoring Local Organization will be responsible for the operation and maintenance of the structural works of improvement by actually performing the work or arranging for such work in accordance with agreements to be entered into prior to issuing invitations to bid for construction work.
10. The costs shown in this agreement represent preliminary estimates. In finally determining the costs to be borne by the parties hereto, the actual costs incurred in the installation of works of improvement will be used.
11. This agreement does not constitute a financial document to serve as a basis for the obligation of Federal funds, and financial and other assistance to be furnished by the Service in carrying out the watershed work plan is contingent on the appropriation of funds for this purpose.

1/ Omit this paragraph when the Service will bear entire cost of installation services for agricultural water management and add "and agricultural water management" after "flood prevention" in preceding paragraph.

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Where there is a Federal contribution to the construction cost of works of improvement, a separate agreement in connection with each construction contract will be entered into between the Service and the Sponsoring Local Organization prior to the issuance of the invitation to bid. Such agreement will set forth in detail the financial and working arrangements and other conditions that are applicable to the specific works of improvement.

12. The watershed work plan may be amended or revised, and this agreement may be modified or terminated, only by mutual agreement of the parties hereto.
13. No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this agreement, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

Local Organization

By _____

Title _____

Date _____

The signing of this agreement was authorized by a resolution of the governing body of the _____

Local Organization

adopted at a meeting held on _____

(Secretary, Local Organization)

Date _____

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*

Local Organization

By _____

Title _____

Date _____

The signing of this agreement was authorized by a resolution of the governing body of the _____

Local Organization

adopted at a meeting held on _____.

(Secretary, Local Organization)

Date _____

Local Organization

By _____

Title _____

Date _____

The signing of this agreement was authorized by a resolution of the governing body of the _____

Local Organization

adopted at a meeting held on _____.

(Secretary, Local Organization)

Date _____

Soil Conservation Service
United States Department of Agriculture

By _____

Administrator

Date _____

*Delete spaces not needed.

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WATERSHED WORK PLAN

DAVID CREEK WATERSHED

Able and Baker Counties, Middlestate

Prepared Under the Authority of the Watershed
Protection and Flood Prevention Act (Public
Law 566, 83d Congress, 68 Stat. 666) as amend-
ed by the Act of August 7, 1956 (Public Law
1018, 84th Congress, 70 Stat. 1088).

Prepared by:

(name of local sponsoring organization(s))

With assistance by:

U. S. Department of Agriculture, Soil Conservation Service

U. S. Department of Agriculture, Forest Service

(month and year)

date

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SECTION 1 - THE WATERSHED WORK PLAN

DAVID CREEK WATERSHED

Able and Baker Counties, Middlestate

(month and year)
dateSUMMARY OF PLAN

The summary should show the size and location of the watershed, the sponsoring local organizations, the watershed problems that the plan covers, and the extent to which it is planned to solve these problems. It should also cover such items as the types of works of improvement, such as land treatment measures and structural measures that are planned for the watershed; the time required to accomplish the plan; the installation cost, total and by phases, and the sharing of this cost as between Public Law 566 and other funds; the arrangements that have been made for carrying out and operating and maintaining the proposed project; the estimated average annual cost of operation and maintenance; and the average annual benefits (dollars) compared to the average annual costs. Public Law 566 and other installation cost figures should agree with the figures shown in Table 1 - Total Project. The summary should not exceed two single-spaced pages.

DESCRIPTION OF THE WATERSHED

This material should be only in sufficient detail to present a clear and adequate picture of conditions in the watershed for use at local, State, and national levels.

Physical Data

Material should be presented in narrative, map, or chart form on such physical data as land (soils, topography, land use, general cover conditions, etc.); water (trace water course from source to junction with a major stream or river, name lakes and approximate areas if they exist in the watershed, principal water uses and sources, flooding, etc.); climate (rainfall, temperatures, growing season, etc.); and any other physical data significant to the problems and their solution.

Economic Data

Material should include such items as major farm or ranch enterprises; areas of forest, woodland, grassland, wildlife, or public land; accessibility of farms or ranches, forests, and public lands to roads and markets; population - rural and urban; farm sizes and values of

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farm and ranch land and buildings; farmland, ranchland or forest land ownership; and any other information which will give a picture of the over-all economy of the watershed area.

WATERSHED PROBLEMS

Problems resulting from floodwater, erosion, and sediment damages, and problems associated with the conservation development, utilization, and disposal of water, should be discussed. Figure 1, PROBLEM LOCATION, will be included in this section of the work plan.

Floodwater Damage

The narrative should include the flood problem of the watershed, including dates and estimated damages caused by major floods for which data is readily available; area affected by flooding; loss of life from floods; effect of the flood hazard on the use of the floodplain and the economic development of the watershed; and any other adverse effects of floods.

Sediment Damage

The narrative should include the effect of sedimentation on water supplies, reservoirs, channels, fish and wildlife, drainage and irrigation developments, agricultural lands, urban areas, transportation and other resources.

Erosion Damage

The narrative should include the extent of sheet erosion and channel erosion, the sources of sediment causing downstream damage, and the effect of erosion on agricultural production and on the general economy of the watershed.

Problems Relating to Water Management

The narrative should include a discussion of the needs for drainage, irrigation, agricultural and urban water supply, water management for fish and wildlife resources, including pollution abatement, and any other water management needs.

EXISTING OR PROPOSED WORKS OF IMPROVEMENT

The narrative should include a brief description of the existing or proposed works of improvement (under other authorities) which will affect, or be affected by, the works of improvement included in the plan.

WORKS OF IMPROVEMENT TO BE INSTALLED

Works of improvement included in the plan should be identified in accordance with the terminology in the "National Catalog of Practices and Measures Used in Soil and Water Conservation", Section IV, National Records and Report Handbook, or the terminology used by the Forest Service and other participating Federal agencies. Terms used locally to identify practices may be included parenthetically to facilitate local understanding. Reference should also be made to Section 5 of this handbook for measures eligible for assistance under the Act. Works of improvement that are not scheduled for installation during the installation period will not be considered as part of the plan and will not be included in Table 1.

Land Treatment Measures

The discussion of land treatment measures should show that land treatment measures were considered the basic element in formulating the watershed project and are essential to its successful functioning.

Only those land treatment measures will be included in the work plan that make a measurable contribution to project objectives. It is, therefore, desirable to describe the measures or functionally inter-related groups of measures and the contribution that each makes in meeting the criteria outlined in paragraph IV, Section 2. Land treatment measures for watershed protection should be discussed separately from those for flood prevention.

The total quantities and estimated costs of installing the significant measures will be shown by item in Table 1.

Structural Measures

The discussion of structural measures should include such items as:

1. A description or sketch of each kind of measure
2. The number of each kind of measure
3. The purposes to be served
4. The total estimated cost of installing the measures
5. The total floodwater detention capacity provided
6. The proportion of the drainage area controlled
7. The amount of runoff controlled

8. The amount of water made available for beneficial use
9. The capacity of channels and drainage systems
10. Any other pertinent information relating to the construction and functioning of the structural measures.

Locations and feasibility for sites must be reasonably firm, based on adequate field surveys, and the location of structural measures shown on Figure 2, PLANNED STRUCTURAL MEASURES. A number of grade stabilization structures of uniform size and cost needed to stabilize a specific reach may be located on the map by showing the number of such structures for each reach.

Quantities, costs, and design features of structural measures will be shown in tables 1, 2, and 3. Table 1 and Figure 2 will be included in this section of the work plan.

BENEFITS FROM WORKS OF IMPROVEMENT

The physical effects of the measures included in the plan should be described. For flood prevention, this discussion should include such items as:

1. Reduction in frequency and size of floods
2. Degree of protection
3. Reduction in area flooded
4. Scope and extent of restoration of former productivity and of changed land use
5. Reductions in rates of erosion and sedimentation
6. Any other physical effects pertinent to the flood problems described in the plan

For agricultural water management, the discussion should include such items as:

1. Area benefiting from new or supplemental water supply
2. Area benefited by new or improved irrigation or drainage systems
3. Changes in land use and crop yields

4. Any other physical effects pertinent to an understanding of the extent to which the project will serve the agricultural water management needs of the watershed.

For non-agricultural water management, the discussion should include such items as:

1. The number of people served
2. Purposes for which water will be used
3. Recreational opportunities afforded
4. Any other physical effects pertinent to the non-agricultural water management needs of the watershed.

Monetary benefits should be shown for each purpose with appropriate explanation of the significant items that are included in Table 7. The direct identifiable benefits and other monetary benefits accruing from measures for the agricultural phases of the conservation, development, utilization and disposal of water should be discussed separately (Ref. Table 9B). Benefits not measurable in monetary terms should be described in sufficient detail to explain their importance to the community, the region, and the Nation. Full discussion of such benefits is particularly important if they are used to allocate substantial installation costs for agricultural water management purposes to the Federal Government.

COMPARISON OF BENEFITS AND COSTS

The discussion should show the ratio of the average annual benefit to average annual cost for the project. Only primary benefits will be used for benefit-cost comparison. Reference should be made to Table 8 for information relating to the justification of individual, or groups of, measures included in the plan.

ACCOMPLISHING THE PLAN

It is particularly important that this part of the work plan adequately describes the framework for carrying out the watershed project, including the general sequence in which works of improvement will be installed. It should spell out specifically for each local organization the measures each will install or be responsible for, how they will be installed and financed, and the extent to which the loan provisions of the Act will be used. It is important that the individual responsibilities of each local organization be completely itemized in this part of the work plan because the Watershed Work Plan Agreement does not establish the specific responsibilities of each. Specific local organization responsibility for the installation of all works of improvement included in the plan should be fully covered.

The narrative will describe the responsibilities of and types of assistance to be made available by each Federal agency in accomplishing the plan. It should state the conditions under which Federal assistance will be made available to the local organizations and how Public Law 566 funds will be used on Federal land. In addition, the narrative will contain this statement, "Federal assistance for carrying out the works of improvement on non-Federal land and the Federal funds for installing the works of improvement on Federal land, as described in this work plan, will be provided under the authority of the Watershed Protection and Flood Prevention Act (Public Law 566, 83d Congress, 68 Stat. 666), as amended by the Act of August 7, 1956, (Public Law 1018, 84th Congress, 70 Stat. 1088)".

If it is anticipated that assistance in the installation of works of improvement will be provided from other Federal programs, a statement should be included showing the programs from which such assistance is expected. Where such assistance is to be provided for multiple-purpose structures which include purposes or features not eligible for cost-sharing assistance under Public Law 566, the extent of assistance under other Federal programs should be shown.

If Federal assistance for construction is desired before all necessary land, easements, and rights-of-way are secured by the local organization, structural measures will be grouped in the work plan (Table 8A) into construction units in accordance with Section 2 of the handbook. The narrative will show that the necessary land, easements, and rights-of-way will be secured for one or more construction units before Federal financial assistance is made available for the construction of any structural measure in the designated construction unit(s).

If the project is to be treated as a single construction unit, all land, easements, and rights-of-way for the entire project must be secured before providing Federal financial assistance for construction of any structural measure.

There should also be included in this section a schedule showing the estimated total Public Law 566 and other obligations for each fiscal year during the installation period. This estimate may be based on the percentage of the total project installation cost that will be obligated each year and does not require the preparation of tables 1 for each year at the time of work plan development.

PROVISIONS FOR OPERATION AND MAINTENANCE

The narrative should present information on operation and maintenance responsibilities in the same detail as is required for installation responsibilities in the section on ACCOMPLISHING THE PLAN. Specific items to be covered for operation and maintenance are:

1. Measures to be operated and maintained, and by whom.
2. Inspections to be made, how often, kinds of inspections, and frequency of joint inspection by Federal and local representatives.
3. Estimated annual operation and maintenance costs.
4. Methods for accomplishing and financing the operation and maintenance work.
5. Responsibilities for operation of structures, including use of water in conservation pools or controlled storage capacity, operation of any control works such as diversions or tide gates, legal steps required to establish operating authority, etc.

Specific maintenance agreements (and operation agreements if required) must be executed prior to the issuance of invitation to bid. This requirement should be understood at the time the watershed work plan agreement is executed, and be so stated in the work plan (Refer to section 19).

COST SHARING

Pertinent features of the cost-sharing provisions of the work plan will be described in the narrative. It should show the following kinds of costs that non-Federal interests will bear:

1. The cost of applying land treatment measures for watershed protection on non-Federal land and a statement that such cost-sharing assistance as will be available under other programs will be utilized.
2. The share of the cost (amount and percent) of applying land treatment measures for flood prevention on non-Federal land.
3. The cost of providing land, easements and rights-of-way.
4. The cost of administering contracts.
5. The cost of water rights.
6. The construction cost of structural measures for non-agricultural water management purposes.
7. The cost of installation services.
8. The share of the cost of construction (amount and percent) of structural measures for agricultural water management.

9. The capitalized value of operation and maintenance costs.

It should also show the following kinds of costs that will be borne from P. L. 566 funds:

1. The cost of accelerating technical assistance for applying land treatment measures on non-Federal land.
2. The cost of accelerating the application of land treatment measures on Federal land.
3. The cost-sharing assistance that will be available for the application of land treatment measures for flood prevention on non-Federal land.
4. The cost of installation services.
5. The construction cost of structural measures for flood prevention.
6. The share of the cost of construction (amount and percent) of structural measures for agricultural water management, including justification for such sharing.

The total project cost and the percentage that P. L. 566 funds are of the total should be shown.

CONFORMANCE OF PLAN TO FEDERAL LAWS AND REGULATIONS

A statement should be included showing the relationship of the proposed project to the comprehensive development of the river sub-basin or river basin involved.

In accordance with Section 211 of the Soil Bank Act, Public Law 540, 84th Congress; All 70 Stat. 688, the following provision must be included in all work plans which, as a result of flood prevention, irrigation or drainage projects involving Federal assistance, brings new land into the production of crops determined by the Secretary to be in surplus supply: "For a period of three years from May 28, 1956, surplus crops grown on lands reclaimed by flood prevention, irrigation, or drainage and the lands so reclaimed shall be ineligible for any benefits under the soil-bank provisions of the Soil Bank Act and under price support legislation."

SECTION 2 - INVESTIGATIONS, ANALYSES, SUPPORTING TABLES AND FIGURES

INVESTIGATIONS AND ANALYSES

This section is intended to describe how the project was formulated. Describe briefly under such headings as hydraulic, hydrologic, geologic, sedimentation and economic investigations, land use and treatment needs, range sites and conditions, soil conditions, etc., the procedures used and the determinations made of damages and benefits. Describe briefly how the determinations were made for various measures and practices included as works of improvement in the plan and the alternatives that were considered. The methods used for allocating costs to purposes for each multiple-purpose structural measure will be described, and supporting data in sufficient detail to permit verification of such allocations will be included.

Any standard methods and information contained in prepared handbooks or publications may be referred to by name rather than described in the work plan. It will not be necessary to include detailed calculations, but such information will be properly filed and available for review locally or for transmittal to the Washington Office. When reconnaissance or detailed studies are made by other agencies, such as the Fish and Wildlife Service, such studies should be mentioned and a brief statement of their conclusions presented.

All preliminary designs for proposed structural measures must be based on sufficient field investigations to substantiate the site conditions and schematic designs used for making cost estimates. The proposed measures must be described in this section of the work plan as to their design and extent of use, including representative drawings and plans of typical structures for an understanding by reviewers.

TABLES

This sample or guide watershed work plan has been prepared to illustrate the considerable detail which may result under as many conditions as appear likely to be encountered in the field. The tables likewise are designed to meet as many conditions as can be readily anticipated to exist.

Only those items or measures which are applicable to the specific watershed work plan should be shown in the tables.

In using all tables, the indicated headings and items should be used in the same order illustrated, top to bottom, and left to right to facilitate all review and summary purposes at the various levels. All installation costs will be based on current price levels.

Prime numbered tables are required in all work plans; A and B tables are required only if applicable; a and b tables are optional at the discretion of the sponsoring local organizations and the Service. Any additional tables should be numbered in accordance with this principle.

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With the exception of Table 1, all work plan tables will be included in this section.

Instructions for Table 1 - Estimated Project Installation Cost

All measures and items together with their total estimated costs should be shown in Table 1. This table will be the basis for providing technical, cost-sharing, and credit assistance from funds made available under the Act. It is important that all items of installation cost for which such assistance is to be made available be itemized. Definitions of items of installation cost can be found in section 7 of this handbook. Generally, the sample table is self-explanatory but the following instructions are provided for further clarification:

1. Show under the column "Total" the total estimated cost of installing the works of improvement included in the work plan, regardless of source of funds.

2. Show all costs that will be borne by other than P. L. 566 funds under the column "Other". This includes any help that may be provided by going programs for cost-sharing and technical assistance on non-Federal land and works of improvement on Federal lands.

3. When Federal agencies other than the Service and the Forest Service will participate in the installation of works of improvement, show the items separately for each agency in the same manner indicated for SCS and FS.

4. Identify works of improvement in accordance with the terminology of the "National Catalog of Practices and Measures Used in Soil and Water Conservation", Section IV, National Records and Report Handbook, or the terminology used by the Forest Service and other participating agencies.

5. Do not include "Operation and maintenance (Installation Period)" for land treatment measures on non-Federal land. This item applies to Federal land only.

6. List types of structural measures by name. Do not designate purposes nor group such measures under a purpose designation.

7. Include in "Construction Costs" appropriate contingency allowances which generally should not be less than 12 percent of the engineer's estimate of construction cost.

8. Distribute the estimated project costs for the State Office and the Engineering and Watershed Planning Unit to the Technical Assistance and Installation Services items for the Soil Conservation Service.

9. Increase the estimated Federal cost for the Soil Conservation Service, including State Office and Engineering and Watershed Planning Unit costs, by four percent to cover indirect costs of the Washington Office. Distribute this amount to the Technical Assistance and Installation Services items.

10. Include in the Forest Service and other Federal agency costs all estimated indirect costs that will eventually be charged to the project by the concerned agencies. Distribute these indirect costs to the Technical Assistance and Installation Services items for each agency.

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TABLE 1 - ESTIMATED PROJECT INSTALLATION COST
David Creek Watershed, Middlestate

Installation Cost Item (1)	No. to be Applied				Estimated Cost (Dollars) ^{1/}							TOTAL (12)
	Unit (2)	Federal Land (3)	Non-Fed Land (4)	Total (5)	P.L. 565 Funds			Other				
					Federal Land (6)	Non-Fed Land (7)	Total (8)	Federal Land (9)	Non-Fed Land (10)	Total (11)		
<u>LAND TREATMENT FOR</u>												
Watershed Protection												
Soil Conservation Service												
Contour Strip Cropping												
Terracing												
Pasture Improvement												
Farm Ponds												
Technical Assistance												
SCS Subtotal												
Forest Service												
Range Improvement												
Fencing												
Pond Construction												
Technical Assistance												
Operation and Maintenance (Installation Period)												
FS Subtotal												
Subtotal - Watershed Protection												
Flood Prevention												
Soil Conservation Service												
Minor Gully Stabilization												
Special Purpose Terraces												
Technical Assistance												
SCS Subtotal												
Forest Service												
Fire Prevention and Control												
Operation and Maintenance (Installation Period)												
Technical Assistance												
FS Subtotal												
Subtotal - Flood Prevention												
TOTAL LAND TREATMENT												
<u>STRUCTURAL MEASURES</u>												
Soil Conservation Service												
Floodwater Retarding Structures												
Stream Channel Improvements												
SCS Subtotal												
Forest Service												
Debris Basins												
FS Subtotal												
Subtotal - Construction												
<u>Installation Services</u>												
Soil Conservation Service												
Engineering Services												
Other												
SCS Subtotal												
FS Subtotal												
Subtotal - Installation Services												
<u>Other Costs</u>												
Land, Easements & R/W												
Administration of Contracts												
Water Rights												
Subtotal - Other												
TOTAL STRUCTURAL MEASURES												
TOTAL PROJECT												
SUMMARY												
Subtotal SCS												
Subtotal FS												
TOTAL PROJECT												

1/ Price Base _____

Date: _____

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INSTRUCTIONS FOR TABLE 1a - STATUS OF WATERSHED WORKS OF IMPROVEMENT

This table may be used to show the accomplishments of the local people in solving their soil and water management problems.

Column (1) "Measures". List under the major headings indicated only those measures contributing to the objectives of the project which have been applied as of the time of preparation of the work plan. Ordinarily, measures installed more than ten years prior to the work plan will not be included. Exceptions to this should be noted on the table.

Column (2) "Unit". Enter the same unit used in Table 1 for reporting these measures.

Column (3) "Applied to Date". Enter the number of units by measures which have been applied to date (close of previous fiscal year).

Column (4) "Total Non-Federal Cost". Enter the total cost of each item. Such costs may be based on current prices.

"Date". Enter date shown on the cover of the Watershed Work Plan.

TABLE 1a - STATUS OF WATERSHED WORKS OF IMPROVEMENT
 (at time of Work Plan Preparation)

David Creek Watershed, Middlestate

Measures (1)	Unit (2)	Applied to date (3)	Total Cost (4)
			(Dollars) <u>1/</u>

LAND TREATMENT

STRUCTURAL MEASURES

TOTAL

XXXXX

XXXXX

Date _____

1/ Price base _____

5/1/57

INSTRUCTIONS FOR TABLE 2 - ESTIMATED STRUCTURE COST DISTRIBUTION

This table will be used to show the various items of cost for individual structures and will be the basis for determining the percentages of construction cost to be shared by the sponsoring local organization and the Federal Government for each structure or group of structures covered by a Project Agreement for Construction of Works of Improvement, Form SCS-55. The following instructions are provided to assist in the preparation of the table:

Column (1). List structural measure for which separate cost estimates are available. Grade stabilization structures may be grouped when a separate estimate for each structure in a system has not been developed.

Columns (2) to (14). Enter the appropriate estimated costs and totals. The sum of columns (2) and (3) should agree with Table 1, "Subtotal Construction Costs" - Federal. The sum of columns (4) and (5) should agree with Table 1, "Subtotal - Installation Services" - Federal. Column (9) should agree with Table 1, "Subtotal - Installation Services" - Non-Federal. Columns (10), (11), and (12) should agree with the same items in Table 1. Column (14) should agree with Table 1, "TOTAL - STRUCTURAL MEASURES".

By footnote, show, where applicable, the non-Federal costs allocated to purposes for which no technical, cost-sharing, and credit assistance is to be provided with Public Law 566 funds, such as the cost of providing a water supply in a multiple-purpose structure for an individual landowner.

By footnote, show, where applicable, the costs for construction and installation services items, such as the cost of widening structural crowns for roadways, included in the estimates shown under Column (11) "Easements and Rights-of-Way".

TABLE 2 - ESTIMATED STRUCTURE COST DISTRIBUTION

David Creek Watershed, Middlestate

(Dollars) 1/

Structure Site No. or Name (1)	Federal Installation Cost					Non-Federal Installation Cost					Estimated Total Cost (14)			
	Construction			Instal. Services		Tot. Fed- eral (6)	Construction			Instal- lation Services (9)		Other		Total Non- Federal (13)
	Eng. Est. (2)	Contin- gencies (3)	Engin- eering (4)	Other (5)	Eng. Est. (7)		Contin- gencies (8)	Adm.of Con- tracts (10)	Ease- ments &R/W (11)			Water Rights (12)		
(By indi- vidual measures)														
GRAND TOTAL														

Date _____

1/ Price base _____

5/1/57

INSTRUCTIONS FOR TABLE 3 - STRUCTURE DATA

Tables 3, 3A, 3B, etc., should present structure data for the several types or kinds of structures included in the work plan. Separate structure data tables should be prepared for the following types of structures:

Floodwater Retarding (Sample Table 3)
Grade Stabilization (Sample Table 3A)
Channels (Sample Table 3B)
Other Significant Types

Tables used should be numbered consecutively (3, 3A, 3B, etc.) as applicable to the project. If there are no planned floodwater retarding structures or water supply reservoirs, sample Table 3A or 3B, as appropriate, will be shown as Table 3.

Table 3 may require continuation sheets to include all structures. Totals should be shown on the last sheet for the items indicated in the sample. Most items in the tables are self-explanatory, but additional clarification is provided for the following items:

1. Drainage Area is exclusive of watershed from which runoff is controlled by other structures in series.
2. Floodwater detention capacity is the capacity designed for floodwater detention below the crest of the emergency spillway.
3. Water supply capacity - Indicate by footnote the purpose served.
4. Design Storm Rainfall, Total Inches. For a and b structures it is the design rainfall used to determine emergency spillway design capacity. For c structures it is the rainfall used to determine freeboard.
5. Design Depth, Emergency Spillway, is H_p referred to in Technical Release, Number 2, Engineering Division, Design Section, dated Oct. 1, 1956.
6. Freeboard is the vertical distance from the crest of the emergency spillway to the top of the settled fill minus H_p .
7. Detention Volume is floodwater detention capacity converted to inches over the drainage area.
8. Spillway storage is the capacity in the reservoir between the crest of the emergency spillway and the top of the dam converted to inches over the drainage area.
9. Class of Structure should be indicated as a, b, or c as defined in Engineering Memorandum No. 3.
10. Table 3A. If a system of structures of uniform size and cost is planned to stabilize a specific reach, structural data for a typical structure in the system may be shown.
11. Table 3B - Column 5, Equivalent Drainage Area, see National Engineering Handbook, Sec. 16, Drainage, for method of calculating. Columns 4, 5, 7, 8, apply to lower end of the channel reach. When channel will not be used for drainage, Columns 5, 6, and 7 may be omitted.

TABLE 3 - STRUCTURE DATAFLOODWATER RETARDING STRUCTURES AND WATER SUPPLY RESERVOIRS

David Creek Watershed, Middlestate

ITEM	UNIT	STRUCTURE NUMBER					TOTAL
		1	2	3	4	Etc.	
Drainage Area	sq. mi.						
Storage Capacity							
Sediment	ac. ft.						
Floodwater deten-							
tion	ac. ft.						
Subtotal	ac. ft.						
Water supply	ac. ft.						
Total	ac. ft.						
Surface Area							
Sediment pool	ac.						
Floodwater deten-							
tion pool	ac.						
Water supply pool	ac.						
Maximum Height of Dam	ft.						XXXXXX
Volume of Fill	cu. yds.						
Emergency Spillway							
Type	-						XXXXXX
Frequency of use	years						XXXXXX
Design storm rainfall							
Duration	hours						XXXXXX
Total	inches						XXXXXX
Bottom width	ft.						XXXXXX
Design depth	ft.						XXXXXX
Design capacity	c.f.s.						XXXXXX
Freeboard	ft.						XXXXXX
Total capacity	c.f.s.						XXXXXX
Principal Spillway							
Capacity	c.f.s.						XXXXXX
Capacity Equivalents							
Sediment volume	inches						XXXXXX
Detention volume	inches						XXXXXX
Spillway storage	inches						XXXXXX
Class of Structure	-						XXXXXX

Date _____

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TABLE 3B - STRUCTURE DATA

CHANNELS

Channel Design- nation	Sta. numbering for reach Sta.	Water- shed area (sq.mi.)	Equiv- alent drain- age area (sq.mi.)	Required Drainage Curve	Required Drainage Capacity (cfs/sqmi)	Planned Channel Capacity (cfs/sqmi)	Ave. Bot- tom Width (ft.)	Ave. Side Slope	Ave. Depth (ft.)	Ave. Fall (ft/ mi.)	Ave. Velo- city in Chan- nel (ft/per sec.)	Volume of Excav- ation (1000 cu yds)
	(100 ft.)	(100 ft.)	(sq.mi.)									

Date _____

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INSTRUCTIONS FOR PREPARING TABLES 4 AND 5

Tables 4 and 5 are included to summarize the pertinent information obtained during the course of the investigation and are not intended to require additional investigations that serve no useful purpose in project formulation and evaluation. The items listed in the sample tables need not be included in every work plan. These items are illustrative only and should be included only when they have been obtained as a necessary part of work plan preparation. Additions to the sample tables can also be made in accordance with this principle.

Although the sample tables were prepared to illustrate the data desired for watershed protection and flood prevention measures, similar data should be included for water management measures, such as:

1. Area benefiting by drainage or irrigation, acres.
2. Changes in land use and cropping pattern, acres.
3. Amount of increased water supply or additional water available for beneficial use, acre-feet.

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TABLE 4 - SUMMARY OF PHYSICAL DATA

David Creek Watershed, Middlestate

Item	Unit <u>1/</u>	Quantity With out Project	Quantity With Project
Watershed area	Sq. Mile		xxxxxxx
Watershed area	Ac.		xxxxxxx
Area privately owned	Ac.		xxxxxxx
Area non-Federal public	Ac.		xxxxxxx
Area Federally owned (by agency)	Ac.		xxxxxxx
Area of cropland	Ac.		
Area of grassland	Ac.		
Area of woodland	Ac.		
Overflow area subject to damage	Ac.		
Area damaged annually by:			
Sediment	Ac.		
Floodplain scour	Ac.		
Swamping	Ac.		
Streambank erosion	Ac.		
Sheet erosion	Ac.		
Annual rate of erosion			
Sheet	Tons/yr.		
Gully	Tons/yr.		
Streambank	Tons/yr.		
Scour	Tons/yr.		
Sediment production	Tons/Ac./yr.		
Average annual rainfall	Inches		xxxxxxx

1/ These units may be modified.

Date _____

TABLE 5 - SUMMARY OF PLAN DATA

David Creek Watershed, Middlestate

Item	Unit	Quantity
Years to complete project	Year	
Total installation cost		
Public Law 566 funds	Dollar	
Other	Dollar	
Annual O & M cost		
Federal	Dollar	
Non-Federal	Dollar	
Average annual monetary benefits ^{1/}	Dollar	
Agricultural	Percent	
Non-agricultural	Percent	
Structural Measures		
Floodwater retarding structures	Each	
Area inundated by structures		
Floodplain		
Sediment pool	Ac.	
Detention pool	Ac.	
Water supply pool	Ac.	
Upland		
Sediment pool	Ac.	
Detention pool	Ac.	
Water supply pool	Ac.	
Watershed area above structures	Ac.	
Reduction of floodwater damage	Dollar	
By Land Treatment Measures -		
Watershed Protection	Percent	
Flood Prevention	Percent	
By Structural Measures	Percent	
Reduction of sediment damage	Dollar	
By Land Treatment Measures -		
Watershed Protection	Percent	
Flood Prevention	Percent	
By Structural Measures	Percent	
Reduction of erosion damage	Dollar	
By Land Treatment Measures -	Percent	
Watershed Protection	Percent	
Flood Prevention	Percent	
By Structural Measures	Percent	
Flood Prevention Benefit from changed land use	Dollar	
Irrigation benefits	Dollar	
Drainage benefits	Dollar	
Other Agricultural Water Management	Dollar	
Non-Agricultural Water Management	Dollar	

^{1/} From Structural Measures and Land Treatment Measures for Flood Prevention.

Date _____

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INSTRUCTIONS FOR TABLE 6 - ANNUAL COSTS

This table will be used to show the annual costs of all land treatment measures for flood prevention and structural measures. The following instructions are provided for further clarification

Column (1) "Measures". List those measures included in Table 1 singly or in groups, as used for evaluation purposes. Groups of measures for evaluation purposes include structural measures which function interdependently with respect to each other but more or less independently of other structural measures. For example, several floodwater retarding structures functioning together to provide a certain degree of protection on a common flood plain would be considered a group for evaluation purposes. Similarly, channel improvement may be grouped with detention structures if they function together to provide a common or joint effect. Drainage and irrigation measures will usually be evaluated as groups independently of each other. Grouping of measures for cost evaluation purposes will be the same as required in Table 8. The Grand Total is the sum of each column.

Columns (2) through (9). Enter the appropriate annual costs for installation, operation and maintenance, other economic, and total for each of the items entered in column (1) "Measures".

Column (2) "Amortization of Installation Cost". Using a fifty-year amortization period or the life of the measures, whichever is shorter, the installation costs will be converted to annual costs based on the current Federal interest rate.

Columns (3) "Federal", (4) "Non-Federal". Enter the operation and maintenance costs. In determining the "Operation and Maintenance" costs, long-term prices (A.R.S.) will be used. Columns 3 and 5 may be omitted when all operation and maintenance costs will be borne by non-Federal interests.

Column (6) "Other Economic". Enter those economic costs which include other identifiable expenses, losses and adverse effects susceptible to monetary evaluation. (See page 9, Item 9 of A-47) . . . (Bureau of the Budget)

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INSTRUCTIONS FOR TABLE 7 - MONETARY BENEFITS FROM STRUCTURAL
MEASURES AND LAND TREATMENT MEASURES FOR FLOOD PREVENTION

This table will be used to show the estimated average annual monetary benefits by categories that will accrue to the land treatment measures for flood prevention and the structural measures together. It will also show the effect of land treatment measures for watershed protection, all land treatment measures, and the entire project on the estimated average annual floodwater, sediment, and erosion damages. The following instructions are provided for further clarification:

"Item". In this column should appear those items for which damage reduction or increased production benefits have been evaluated and claimed as resulting from the installation of the works of improvement included in the work plan. These items should always be listed in the order shown to assist in summarizing information. Secondary benefits ordinarily will be evaluated only for agricultural water management. Future benefit values will be discounted, where appropriate, to reflect any significant lag in project effect.

Flood damage estimates will be shown for items of damage for which flood prevention benefits are claimed except changed land use. Where flood damages are not used or not needed for benefit evaluation, it may be assumed that damage "without project" is at least equal to the project benefit.

Crop and pasture damage includes loss of former productivity and impaired use of flood plain land resulting from a flood hazard as well as floodwater damage to growing crops and pasture. Gully erosion damage includes, in addition to the loss resulting from land voiding, such sheet erosion damage and impaired land use that is interrelated with gully erosion.

"Estimated Average Annual Damage Without Project". Enter the dollar value of the average annual damage occurring without the project.

"Estimated Average Annual Damage After Land Treatment for Watershed Protection". Enter the dollar value of the average annual damage remaining with the land treatment measures for watershed protection applied.

"Estimated Average Annual Damage After All Land Treatment". Enter the dollar value of the average annual damage with all land treatment measures installed. This column and the phrase "and land treatment measures for flood prevention" in the table title should be omitted when there are no such measures in the plan.

"Estimated Average Annual Damage with Project". Enter the average annual damage that will continue to be incurred after project installation.

"Average Annual Monetary Benefits". Enter the average annual flood prevention benefits or increased production benefits as applicable. Flood prevention benefits will be calculated as the difference between damages with the land treatment measures for watershed protection installed and damages with all project measures installed.

TABLE 7 - MONETARY BENEFITS FROM STRUCTURAL MEASURES AND
LAND TREATMENT MEASURES FOR FLOOD PREVENTION

David Creek Watershed, Middlestate

(Dollars) 1/

Item	Est. Average Annual Damage With- After Land After out Treatment All Land Pro Pro- for W/S Treat- ject ject Protection ment	Average With Annual Monetary Benefits
Floodwater Damage		
Crop and Pasture		
Other Agricultural		
Non-Agricultural (List		
Important Items)		
Subtotal		
Sediment Damage		
Overbank deposition		
Reservoirs		
Other (List Important Items)		
Subtotal		
Erosion Damage		
Floodplain Scour		
Streambank		
Gullies		
Subtotal		
Indirect Damage		
Total, All Damage		
Changed Land Use		
To Urban Use	xxx	xxx
To Crop Production	xxx	xxx
Subtotal		
TOTAL FLOOD PREVENTION BENEFITS		
Municipal or Industrial		
Water Supply	xxx	xxx
Recreation	xxx	xxx
Wildlife	xxx	xxx
Other	xxx	xxx
TOTAL NON-AGRICULTURAL WATER		
MANAGEMENT BENEFITS	xxx	xxx
Drainage	xxx	xxx
Irrigation	xxx	xxx
Other Agricultural Water Mgt.	xxx	xxx
Indirect	xxx	xxx
Secondary <u>2/</u>	xxx	xxx
TOTAL AGRICULTURAL WATER		
MANAGEMENT BENEFITS	xxx	xxx
TOTAL PRIMARY BENEFITS	xxx	xxx
TOTAL MONETARY BENEFITS	xxx	xxx

1/ Price base _____
2/ Not used in project justification

Date _____

5/1/57

INSTRUCTIONS FOR TABLE 8 - BENEFIT-COST ANALYSIS

This table will be used to show the estimated average annual benefits, estimated average annual costs, and benefit-cost ratios for individual, or groups of, land treatment measures for flood prevention and structural measures. The following instructions are provided for further clarification:

Column (1) "Measures". List those measures included in Table 1 (except those Land Treatment Measures primarily for Watershed Protection), singly or in groups, as used for evaluation purposes. See instructions for Table 6, Annual Costs.

Columns (2) through (10). Enter the appropriate average annual benefits. Such entries for each measure will be shown as a dollar value.

Column (11) "Total". Enter the total average annual benefits for each evaluation unit. This will be the sum of all the columns immediately to the left. These figures should agree with the total primary benefits of Table 7.

Column (12) "Average Annual Cost". Enter the average annual costs for each evaluation unit. These figures should agree with those in column (9), Total, of Table 6.

Column (13) "Benefit-Cost Ratio". Enter the relationship of benefits to costs, with costs as unity or 1.0. Compute expression of benefits to the nearest tenth.

TABLE 8 - BENEFIT COST ANALYSIS

David Creek Watershed, Middlestate

(Dollars) 1/

Measures <

1/ Price base _____

Date _____

2/ Does not include secondary benefits of \$ _____ Annually.

5/1/57

INSTRUCTIONS FOR TABLE 8A

BENEFITS AND COSTS BY CONSTRUCTION UNITS

This table will show the relationship of benefits to costs for designated construction units. If the project is a single construction unit this table may be omitted. The following instructions are provided for further clarification:

Column (1) "Construction Unit and Structures". Show the number or subwatershed designation of the construction unit. A construction unit may consist of interrelated groups of structures or single structures that provide benefits in excess of costs. The boundaries of each construction unit will include individual or groups of works of improvement providing benefits in excess of costs. Show the structures that are included in each construction unit.

Column (2) "Annual Benefits". Show the annual benefits for the group of structures in each construction unit that will accrue in the absence of the remaining works of improvement included in the project.

Column (3) "Annual Costs". Show the annual costs including operation and maintenance for the groups of structures in each construction unit.

Total benefits and total costs for all construction units will not be shown.

TABLE 8A - BENEFITS AND COSTS BY CONSTRUCTION UNITS

David Creek Watershed, Middlestate

(Dollars) 1/

Construction Unit and Structures	Annual Benefits	Annual Costs

1/ Price base _____

Date _____

5/1/57

INSTRUCTIONS FOR TABLE 9 - COST-SHARING SUMMARY

Table 9 will be used to tabulate the pertinent cost-sharing provisions of the work plan. The P.L. 566 and other costs for land treatment measures are obtained from Table 1; for structural measures, from Table 9A Step B; and for operation and maintenance costs, from Table 6 and capitalized at the borrowing rate available to the local organization responsible for operation and maintenance.

The percentages that will be entered under P.L. 566 and other will be the percentage that each is of the total cost for each type of cost. The percentage under Total Cost is the percent that each type of cost is of the total cost. The total P.L. 566 and other project cost minus operation and maintenance costs will equal the amounts in Table 1.

5/1/57

TABLE 9 - COST-SHARING SUMMARY

David Creek Watershed, Middlestate

Type of Cost	P.L. 566 Funds		Other		Total Cost	
	Dollars	Pct	Dollars	Pct	Dollars	Pct
Land Treatment						
Non-Federal Land						
For Watershed Protection						
For Flood Prevention						
Federal Land						
Subtotal						
Structural Measures						
Installation						
Flood Prevention						
Ag. Water Management						
Non-Ag. Water Mgt.						
Subtotal						
Total Installation Cost						
Operation & Maintenance						
Total Structural Cost						
TOTAL PROJECT COST						100.0

Date _____

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INSTRUCTIONS FOR TABLE 9A

ALLOCATION OF INSTALLATION COSTS OF STRUCTURAL MEASURES

This table will show the installation costs allocated to flood prevention, agricultural water management and non-agricultural water management, and the sharing of costs allocated to each purpose.

STEP A

Column (1) "Item". All single-purpose structures serving the same purpose may be grouped by purpose. Each multiple-purpose structure should be listed separately.

Columns (2) through (4). Enter the installation cost for the structures shown in Column (1). The entire installation costs of single-purpose structures will be allocated to their respective purposes, i.e., flood prevention structures to flood prevention purposes, etc. The installation cost of each multiple-purpose structure will be allocated to each purpose in accordance with Section 6.

Column (5) "Total". Enter the sums of Columns (2), (3), and (4). The total of the column should be the same as Total Installation - Structures, Table 1

STEP B

Column (2) "Flood Prevention". Enter the sum of required non-Federal costs for flood prevention opposite "non-Federal". Enter the remainder of the installation cost for flood prevention purposes opposite "Federal".

Column (3) "Agricultural Water Management". Opposite "other" enter the amount obtained by multiplying the total installation cost for Agricultural Water Management (Step A) by the percentage that direct identifiable benefits are of the total monetary benefits (Table 9B), or enter the amount justified in the work plan on the basis of intangible benefits. Enter the remainder of the cost for Agricultural Water Management opposite "P.L. 566".

Column (4) "Non-Agricultural Water Management". Opposite non-Federal enter the total installation cost allocated to this purpose.

TABLE 9A - ALLOCATION OF INSTALLATION COSTS OF STRUCTURAL MEASURES

David Creek Watershed, Middlestate

(Dollars) 1/

Item (1)	Purpose			Total (5)
	Flood Prevention (2)	Agricultural Water Management (3)	Non-Agricultural Water Management (4)	
STEP A				
Single Purpose				
Multiple Purpose				
Total				
STEP B				
P.L. 566		<u>2/</u>	XXXX	
Other		<u>2/</u>		
Total				

1/ Price base _____

Date _____

2/ When the cost sharing reflects consideration given to intangible benefits use the following footnote: "This cost sharing reflects the consideration given to intangible benefits described on page ____."

5/1/57

INSTRUCTIONS FOR TABLE 9B

CLASSIFICATION OF AGRICULTURAL WATER MANAGEMENT BENEFITS

This table will show the relationship of direct identifiable benefits to total monetary benefits as a basis for cost sharing of agricultural water management benefits.

Benefits accruing to direct identifiable beneficiaries and other beneficiaries will be determined in accordance with the definitions contained in Section 7.

The percentage shown in Column 3 will be the percent that direct identifiable benefits are of the total monetary benefits for each purpose. The total benefits should agree with the comparable values in Table 7.

5/1/57

TABLE 9B - CLASSIFICATION OF AGRICULTURAL WATER MANAGEMENT BENEFITS

David Creek Watershed, Middlestate

(Dollars) 1/

Purpose	Direct Identifiable		Other		Total
	Dollars	Percent	Public	Incidental	
Drainage					
Irrigation					
Other					
Total					

1/ Price base _____2/ Not used for project justification.

Date _____

FIGURES

Figures may be used to show the location and extent of important watershed conditions that affect or will be affected by the works of improvement to be installed, location and extent of watershed problems, and the location of important structural works of improvement. With the exception of Figures 1 and 2, and photographs and charts which will be included in Section 1 of the work plan, all other figures should be in Section 2 of the plan. The following figures are required as a minimum for all work plans:

(1) Figure 1, Problem Location. This map will be used to locate important watershed problems, such as floodwater, sediment and erosion, areas needing drainage, and areas on which new or rehabilitation of existing irrigation works of improvement are needed. This map may also be used to show valley cross sections used in planning investigations.

(2) Figure 2, Planned Structural Measures. This map is designed to locate important structures to be installed. Where the number of structures is large, such as grade stabilization structures and water control structures in irrigation and drainage canals, the number should be shown by reaches of the channel or canal.

In addition, other figures may be included, as necessary, to adequately portray features described in the work plan. In no event is it expected that additional maps will be included in the work plan unless they were used in its development. Such maps may include:

(1) Generalized Land Use Capability maps, particularly of those areas for which it is estimated that changed or improved land use will occur as a result of the reduction of the flood hazard, the lowering of water levels, or the supplying of new or supplemental irrigation water.

(2) Maps showing watershed features that have a significant effect on runoff, sediment production and water supply, such as range site and condition maps.

PROBLEM LOCATION

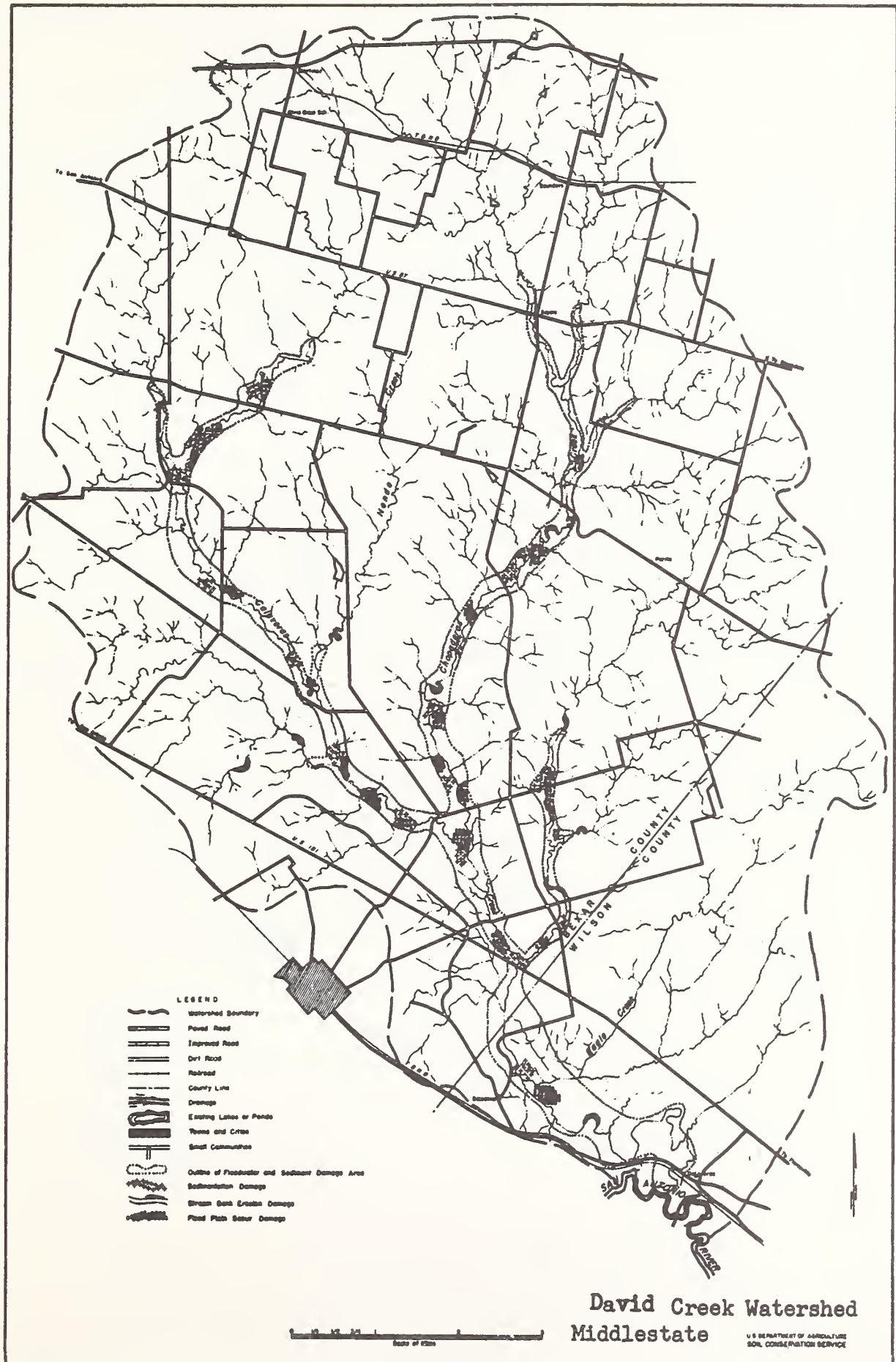


Figure 1

5/1/57

PLANNED STRUCTURAL MEASURES

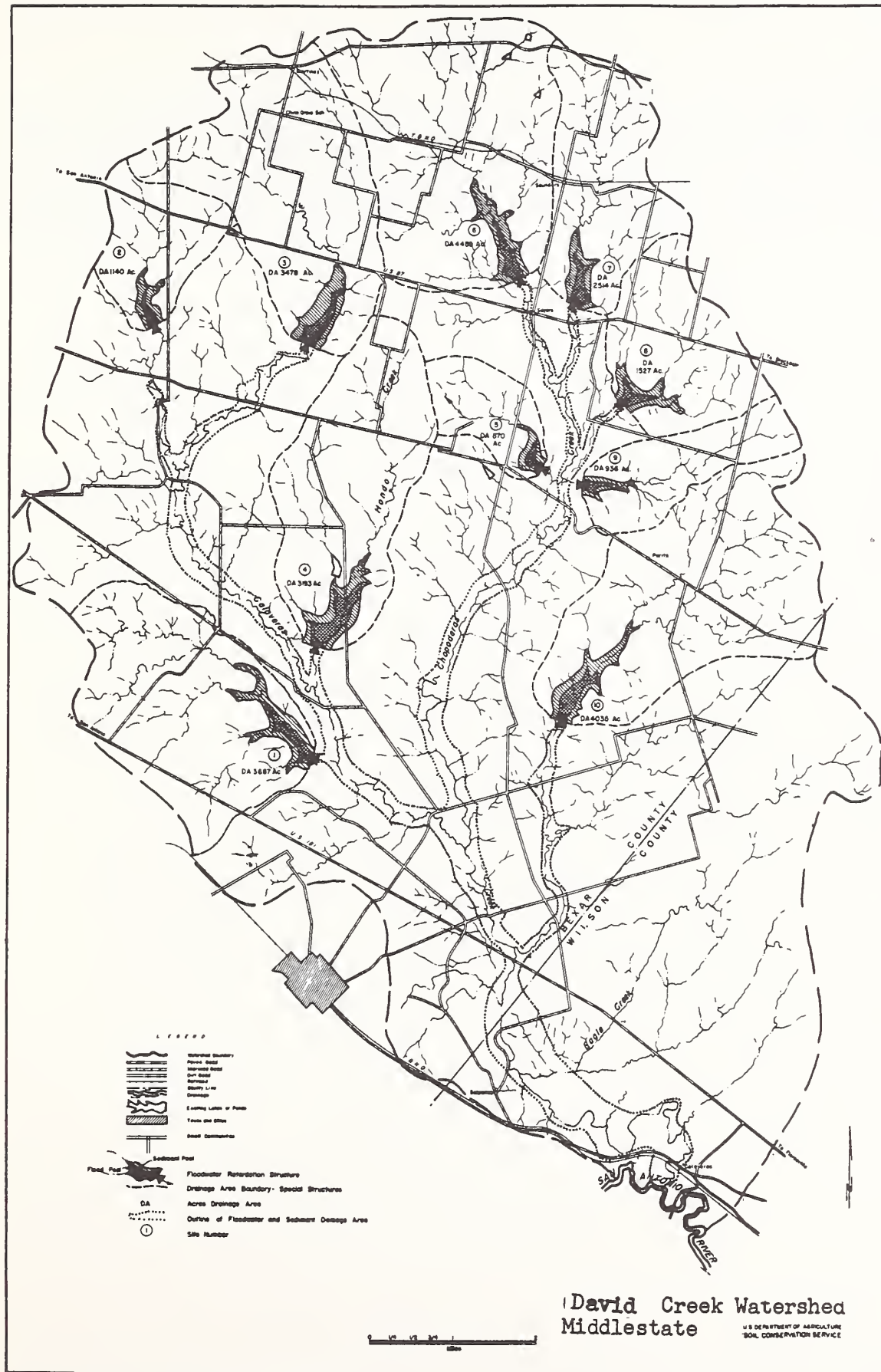


Figure 2

5/1/57

WATERSHED PROTECTION HANDBOOK

SECTION 24

APPENDIX

This section contains copies of the Act, Executive Order 10584, Policy of the Secretary of Agriculture, memorandums of understanding with other agencies, and the rules and regulations of the Department of Agriculture and other Federal agencies pertinent to the Watershed Protection and Flood Prevention Act. As additional material becomes available, it will be added to this section.

Watershed Protection and Flood Prevention Act
(P.L. 566 - 83d Cong ; 68 Stat. 666),
As Amended By The Act of August 7, 1956
(P.L. 1018, 84th Cong.; 70 Stat. 1088)*

AN ACT

To authorize the Secretary of Agriculture to cooperate with States and local agencies in the planning and carrying out of works of improvement for soil conservation, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That erosion, floodwater, and sediment damages in the watersheds of the rivers and streams of the United States, causing loss of life and damage to property, constitute a menace to the national welfare; and that it is the sense of Congress that the Federal Government should cooperate with States and their political subdivisions, soil or water conservation districts, flood prevention or control districts, and other local public agencies for the purpose of preventing such damages and of furthering the conservation, development, utilization, and disposal of water and thereby of preserving and protecting the Nation's land and water resources.

SEC. 2 For the purposes of this Act, the following terms shall mean:

The "Secretary"--the Secretary of Agriculture of the United States.

"Works of improvement"--any undertaking for --

(1) flood prevention (including structural and land treatment measures) or

(2) the conservation, development, utilization, and disposal of water

in watershed or subwatershed areas not exceeding two hundred and fifty thousand acres and not including any single structure which provides more than five thousand acre-feet of floodwater detention capacity, and more than twenty-five thousand acre-feet of total capacity. No appropriation shall be made for any plan involving an estimated Federal contribution to construction costs in excess of \$250,000, or which includes any structure which provides more than twenty-five hundred acre-feet of total capacity unless such plan has been approved by resolutions adopted by the appropriate committees of the Senate and House of Representatives: Provided, That in the case of any plan involving no single structure providing more than 4,000 acre-feet of total capacity the appropriate

*Section 2 of the Act of August 7, 1956, not incorporated herein, makes the Act applicable to any plan for works of improvement with respect to which the Secretary of Agriculture was authorized, prior to the date of the Act, to participate in the installation of works of improvement in accordance with such plan.

committees shall be the Committee on Agriculture and Forestry of the Senate and the Committee on Agriculture of the House of Representatives and in the case of any plan involving any single structure of more than 4,000 acre-feet of total capacity the appropriate committees shall be the Committee on Public Works of the Senate and the Committee on Public Works of the House of Representatives, respectively. A number of such subwatersheds when they are component parts of a larger watershed may be planned together when the local sponsoring organizations so desire.

"Local organization"--any State, political subdivision thereof, soil or water conservation district, flood prevention or control district, or combinations thereof, or any other agency having authority under State law to carry out, maintain and operate the works of improvement.

SEC. 3. In order to assist local organizations in preparing and carrying out plans for works of improvement, the Secretary is authorized, upon application of local organizations if such application has been submitted to, and not disapproved within 45 days by, the State agency having supervisory responsibility over programs provided for in this Act, or by the Governor if there is no State agency having such responsibility--

(1) to conduct such investigations and surveys as may be necessary to prepare plans for works of improvement;

(2) to prepare plans and estimates required for adequate engineering evaluation;

(3) to make allocations of costs to the various purposes to show the basis of such allocations and to determine whether benefits exceed costs;

(4) to cooperate and enter into agreements with and to furnish financial and other assistance to local organizations: Provided, That, for the land treatment measures, the Federal assistance shall not exceed the rate of assistance for similar practices under existing national programs;

(5) to obtain the cooperation and assistance of other Federal agencies in carrying out the purposes of this section.

SEC. 4. The Secretary shall require as a condition to providing Federal assistance for the installation of works of improvement that local organizations shall--

(1) acquire without cost to the Federal Government such land, easements, or rights-of-way as will be needed in connection with works of improvement installed with Federal assistance;

(2) assume (A) such proportionate share, as is determined by the Secretary to be equitable in consideration of the direct identifiable benefits, of the costs of installing any works of improvement, involving Federal assistance, which is applicable to the agricultural phases of the conservation, development, utilization, and disposal of water, and (B) all of the cost of installing any portion of such works applicable to other purposes except that any part of the construction cost (including engineering costs) applicable to flood prevention and

features relating thereto shall be borne by the Federal Government and paid for by the Secretary out of funds appropriated for the purposes of this Act.

(3) make arrangements satisfactory to the Secretary for defraying costs of operating and maintaining such works of improvement, in accordance with regulations presented by the Secretary of Agriculture;

(4) acquire, or provide assurance that landowners or water users have acquired, such water rights, pursuant to State law, as may be needed in the installation and operation of the work of improvement;

(5) obtain agreements to carry out recommended soil conservation measures and proper farm plans from owners of not less than 50 per centum of the lands situated in the drainage area above each retention reservoir to be installed with Federal assistance; and

(6) submit a plan of repayment satisfactory to the Secretary for any loan or advancement made under the provisions of section 8.

SEC. 5. At such time as the Secretary and the interested local organization have agreed on a plan for works of improvement, and the Secretary has determined that the benefits exceed the costs, and the local organization has met the requirements for participation in carrying out the works of improvement as set forth in section 4, the local organization with such assistance as it may request from the Secretary, which assistance the Secretary is hereby authorized to give, shall secure engineering and other services, including the design, preparation of contracts and specifications, awarding of contracts, and supervision of construction, in connection with such works of improvement, and in order to properly carry out such services in such projects as to such structures therein providing for municipal or industrial water supplies, the local organization shall, and in such projects not providing for municipal or industrial water supplies, the local organization may, retain or employ a professional engineer or engineers satisfactory to the Secretary, and the Secretary shall reimburse the local organization for the cost it may incur for the services of such engineer or engineers as is properly chargeable to such works of improvement, except that if the local organization decides not to retain or employ a professional engineer or if the Secretary determines that competent engineering services are not available he may contract for a competent engineer to provide such services or arrange for employees of the Federal Government to provide such services: Provided, That at the request of the local organization which retains or employs a professional engineer or engineers as aforesaid, the Secretary may advance such amounts as may be necessary to pay for such services, but such advances with respect to any works of improvement shall not exceed 5 per centum of the estimated total cost of such works: Provided further, That, except as to the installation of works of improvement on Federal lands, the Secretary shall not construct or enter into any contract for the construction of any structure unless there is no local organization authorized by State law to undertake such construction or to enter into such contract, and in no event after July 1, 1956: Provided, That in participating in the installation of such works of improvement the Secretary,

as far as practicable and consistent with his responsibilities for administering the overall national agricultural program, shall utilize the authority conferred upon him by the provisions of this Act: Provided further, That whenever the estimated Federal contribution to the construction cost of works of improvement in any watershed or subwatershed area shall exceed \$250,000 or the works of improvement include any structure having a total capacity in excess of twenty-five hundred acre-feet, the Secretary shall transmit a copy of the plan and the justification therefor to the Congress through the President: Provided further, That any such plan involving an estimated Federal contribution to construction costs in excess of \$250,000 or containing any structure having a total capacity in excess of twenty-five hundred acre-feet (a) which includes reclamation or irrigation works or which affects public or other lands or wildlife under the jurisdiction of the Secretary of the Interior, or (b) which includes Federal assistance for floodwater detention structures, shall be submitted to the Secretary of the Interior or the Secretary of the Army, respectively, for his views and recommendations at least thirty days prior to transmission of the plan to the Congress through the President. The views and recommendations of the Secretary of the Interior, and the Secretary of the Army, if received by the Secretary of Agriculture prior to the expiration of the above thirty-day period, shall accompany the plan transmitted by the Secretary of Agriculture to the Congress through the President: Provided further, That, prior to any Federal participation in the works improvement under this Act, the President shall issue such rules and regulations as he deems necessary or desirable to carry out the purposes of this Act, and to assure the coordination of the work authorized under this Act and related work of other agencies including the Department of the Interior and the Department of the Army.

SEC. 6. The Secretary is authorized in cooperation with other Federal and with States and local agencies to make investigations and surveys of the watersheds of rivers and other waterways as a basis for the development of coordinated programs. In areas where the programs of the Secretary of Agriculture may affect public or other lands under the jurisdiction of the Secretary of the Interior, the Secretary of the Interior is authorized to cooperate with the Secretary of Agriculture in the planning and development of works or programs for such lands.

SEC. 7. The provisions of the Act of June 22, 1936 (49 Stat. 1570), as amended and supplemented, conferring authority upon the Department of Agriculture under the Direction of the Secretary of Agriculture to make preliminary examinations and surveys and to prosecute works of improvement for runoff and waterflow retardation and soil erosion prevention on the watersheds of rivers and other waterways are hereby repealed: Provided, That (a) the authority of that Department of Agriculture, under the direction of the Secretary, to prosecute the works of improvement for runoff and waterflow retardation and soil erosion prevention authorized to be carried out by the Department by the Act of December 22, 1944 (58 Stat. 887), as amended, and (b) the authority of the Secretary of Agriculture to undertake emergency measures for runoff retardation and soil erosion prevention authorized to be carried out by section 7 of the Act of June 28, 1938 (52 Stat. 1215), as amended by section 216 of the Act of May 17, 1950 (64 Stat. 163),

shall not be affected by the provisions of this section.

SEC. 8. The Secretary is authorized to make loans or advancements to local organizations to finance the local share of costs of carrying out works of improvement provided for in this Act. Such loans or advancements shall be made under contracts or agreements which will provide, under such terms and conditions as the Secretary deems appropriate, for the repayment thereof in not more than fifty years from the date when the principal benefits of the works of improvement first become available, with interest at the average rate, as determined by the Secretary of the Treasury, payable by the Treasury upon its marketable public obligations outstanding at the beginning of the fiscal year in which the loan or advancement is made, which are neither due nor callable for redemption for fifteen years from date of issue. With respect to any single plan for works of improvement, the amount of any such loan or advancement shall not exceed five million dollars.

SEC. 9. The provisions of this Act shall be applicable to Hawaii, Alaska, Puerto Rico, and the Virgin Islands.

SEC. 10. There are hereby authorized to be appropriated such sums as may be necessary to carry out the purposes of this Act, such sums to remain available until expended.

SEC. 11. This Act may be cited as the "Watershed Protection and Flood Prevention Act".

5/1/57

James C. Hagerty, Press Secretary to the President

THE WHITE HOUSE

The President today issued an Executive Order prescribing rules and regulations for the administration of the Watershed Protection and Flood Prevention Act of 1954.

The Act authorizes the Department of Agriculture to render technical and financial assistance to organized groups of farmers living in small watersheds where floods, drought, and soil erosion are inflicting serious damage. Local initiative and responsibility, and close cooperation with State agencies, are key ingredients in carrying out the works of improvement made possible by this law.

Principally, the President, by today's order:

1. Defined the types of programs and works of improvement subject to the order.
2. Assigned responsibility to the Secretary of Agriculture for several functions, including the approval of applications for assistance, the notification of other agencies of survey activities, the clearance of final plans, and the establishment of proper economic and engineering standards for the design and evaluation of projects authorized under the Act.
3. Established a procedure whereby the Secretary of the Interior can cooperate with the Secretary of Agriculture in the installation of works of improvement on lands under the jurisdiction of the Department of the Interior.
4. Established a coordination procedure covering related works carried out by the Departments of the Army and the Interior.
5. Established a general requirement that works under the Act fit in with the comprehensive development of river basins.
6. Defined the role of such agencies as the Weather Bureau and the U. S. Geological Survey, who will assist the Department of Agriculture in the collection and interpretation of basic data on rainfall, runoff, and streamflow.

The issuance of this order constitutes an important step toward the achievement of a sound national program for the development, use, and conservation of the nation's soil and water resources.

5/1/57

THE WHITE HOUSE

EXECUTIVE ORDER

10584

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PREScribing RULES AND REGULATIONS
RELATING TO THE ADMINISTRATION OF
THE WATERSHED PROTECTION AND FLOOD
PREVENTION ACT

By virtue of the authority vested in me by the Watershed Protection and Flood Prevention Act, and as President of the United States, I hereby prescribe the following rules and regulations relating to the administration of the said Act:

Section 1. Scope of order. This order shall apply (a) to the planning, construction, operation, and maintenance of all works of improvement under the authority of the Watershed Protection and Flood Prevention Act (Public Law 566, approved August 4, 1954; 68 Stat. 666), hereinafter referred to as the Act, and (b) to other programs and projects of the Department of Agriculture, and to programs and projects of the Department of the Interior and of the Department of the Army, to the extent that such programs or projects affect, or are affected significantly by, works of improvement provided for in the Act.

Section 2. Department of Agriculture. The Secretary of Agriculture shall have the following-described responsibilities with respect to works of improvement under the Act:

(a) Approval or disapproval of applications for Federal assistance in preparing plans for works of improvement, and the assignment of priorities for the provision of such assistance.

(b) Notifying the following, severally, in writing of all approvals or disapprovals of applications for planning assistance: the sponsoring organization, the State Governor or Governors concerned, the Secretary of the Interior, the Secretary of the Army, and other Federal agencies concerned.

(c) Notifying in writing the Secretary of the Interior and the Secretary of the Army and other Federal agencies concerned of his decision to initiate any survey or field investigation involving water-resource development work, and furnishing the Federal agencies concerned with appropriate information regarding the scope, nature, status, and results of such survey or investigation.

5/1/57

(d) Submitting plans for works of improvement to the State Governor or Governors concerned and to the Federal agencies concerned for review and comment, when the Secretary and the interested local organization have agreed on such plans; and, when and as required by the Act, submitting such plans to the Secretary of the Interior and the Secretary of the Army for their review and comment prior to transmission of the plans to the Congress through the President.

(e) Establishing criteria for the formulation and justification of plans for works of improvement and criteria for the sharing of the cost of both structural and land treatment measures which conform with policies established by or at the direction of the President for watershed protection, flood control, irrigation, drainage, water supply, and related water-resource development purposes.

(f) Establishing engineering and economic standards and objectives, including standards as to degrees of flood protection, for works of improvement planned and carried out under the authority of the Act.

(g) Determination and definition of (1) those land-treatment measures and structural improvements for flood prevention and measures for the agricultural phases of conservation, development, use, and disposal of water which are eligible for Federal assistance, and (2) the nature and extent of such assistance and the conditions under which such assistance shall be rendered.

(h) Planning and installing works of improvement on public lands under his jurisdiction, and arranging for the participation of other Federal agencies in the planning and installation of works of improvement on public lands under their jurisdiction.

(i) Consulting with the Tennessee Valley Authority with respect to any survey or field investigation involving water-resource development work in the Tennessee Valley, and continuing such consultation throughout all phases of project development.

(j) Holding public hearings at suitable times and places when he determines that such action will further the purposes of the Act.

Section 3. Department of the Interior. (a) The Secretary of the Interior shall notify the Secretary of Agriculture and the Secretary of the Army and other Federal agencies concerned in writing of his decision to initiate any survey or field investigation involving water-resource development work, and shall furnish the Federal agencies concerned with appropriate information regarding the scope, nature, status, and results of such survey or investigation.

(b) The Secretary of the Interior shall cooperate with the Secretary of Agriculture in assessing the need for works of improvement under the Act on Federal lands under the jurisdiction of the Department of the Interior. Recommendations of the Secretary of the Interior for

necessary work on such lands shall be submitted as an integral part of the plans of the Department of Agriculture for works of improvement. Arrangements for construction, operation, and maintenance of works of improvement on such lands shall be mutually satisfactory to the Secretary of Agriculture and the Secretary of the Interior.

Section 4. Department of the Army. The Secretary of the Army shall notify the Secretary of Agriculture and the Secretary of the Interior and other Federal agencies concerned in writing of his decision to initiate any survey or field investigation involving water-resource development work, and shall furnish the Federal agencies concerned with appropriate information regarding the scope, nature, status, and results of such survey or investigation.

Section 5. Relationship to comprehensive development. (a) The Secretary of Agriculture shall submit plans for installation of works of improvement under the Act to the Congress through the President only if the Secretary is satisfied that such works constitute needed and harmonious elements in the comprehensive development of the river sub-basin or river basin involved.

(b) Federal agencies having responsibilities for water resource developments shall, in the design and justification of works of improvement, take cognizance of all upstream and downstream works in place and in operation, or soon to be brought into operation. The guiding principle shall be to adjust the nature, capacity, and operating characteristics of works of improvement in a manner that (1) reflects the respective contributions of upstream and downstream works to flood protection and to the conservation, development, use, and disposal of water, and (2) provides the best use and control of water resources at minimum cost. Whenever approximately equivalent benefits can be obtained from alternative works of improvement or combinations of improvements, with approximately the same cost, the alternative or combination least costly to the Federal Government shall be given preferential consideration. In case benefits are produced jointly by more than one work of improvement, or in case complementary relationships exist between the projects and plans of the several agencies, the benefits claimed in justification of a system of improvements shall not include any duplication or compounding of benefits.

Section 6. Basic data. In the utilization of existing basic physical and economic data, and in the acquisition of additional basic data required for planning, design, construction, operation and evaluation of works of improvement authorized under the Act, the Department of Agriculture shall be assisted by the principal basic-data collection agencies, including the Geological Survey in the Department of the Interior and the Weather Bureau in the Department of Commerce. The basic-data collection agencies shall assist and cooperate with the Department of Agriculture with respect to the following:

(a) Provision of pertinent information in the preliminary planning of works of improvement.

(b) Collaboration in planning programs of hydrologic-data collection in project areas, in the selection of station sites and installation of equipment for collecting hydrologic data, and in the collection of such data.

(c) Collaboration in the analysis and interpretation of hydrologic data collected specifically for projects initiated under the Act, and of relevant data which may contribute to an analysis of the effects of such projects.

DWIGHT D. EISENHOWER

THE WHITE HOUSE

December 18, 1954

5/1/57

POLICY OF THE SECRETARY OF AGRICULTURE FOR THE ADMINISTRATION
OF THE WATERSHED PROTECTION AND FLOOD PREVENTION ACT
(P.L. 566 - 83d Cong.; 68 Stat. 666),
as amended by the Act of August 7, 1956
(P. L. 1018, 84th Cong.; 70 Stat. 1088)

The Administrator of the Soil Conservation Service hereby is assigned responsibility for the administration of the Watershed Protection and Flood Prevention Act (P.L. 566 - 83d Cong.; 68 Stat. 666), as amended by the Act of August 7, 1956 (P.L. 1018, 84th Cong.; 70 Stat. 1088), except that administration of Section 8 of the Act, as amended, shall be a responsibility of the Administrator of the Farmers Home Administration.

The Administrator of the Soil Conservation Service shall discharge his responsibility:

- (1) subject to the general guidance and supervision of the Assistant Secretary of Agriculture for Federal-States Relations;
- (2) with careful regard for the language of the statute and provisions of the Regulations of the President (Executive Order 10584) applicable to it;
- (3) in accordance with the provisions of Title 9 of the Administrative Regulations of the Department of Agriculture; and
- (4) in harmony with the policies set forth herein.

The initiative for all projects under this legislation must come from the people of the locality where the proposed project is to be carried out.

The development of maximum initiative and responsibility by local organizations shall be given every appropriate encouragement. Because work to be undertaken has significance only as it relates to the present and future needs of people, careful attention in all cases will be given to the probable effect of any proposed watershed project upon the people to be affected by it.

Work undertaken and performed under this Act is to be to the fullest possible extent in harmony with other work of this Department, of other Departments of the Federal Government, and with work of State and local governments and private organizations.

Work undertaken is to be cooperative with the States, their political subdivisions, or any agency having authority under State law to carry

out, maintain, and operate works of improvement authorized by the Act. Cooperative work will be undertaken so as to assure compliance with State laws, and to achieve as fully as possible a coordinated effort toward accomplishing the objective of the Act.

In the preparation and execution of plans for works of improvement, fullest utilization is to be made of all available basic data pertinent to such works including geodetic, climatic, hydrologic, topographic, geologic, soils, land use and vegetal cover conditions. Such data will be utilized where applicable from whatever source it is available.

Assistance rendered will, among other things, be provided on the basis of its contribution toward an adequate water supply for our people, prevention of water waste, reduction of pollution, equitable distribution of available water supplies, prevention of floodwater and sediment damages, diminution of destructive force of water, and its contribution toward an enhancement of resources values in terms of wise use of resources to meet the needs of an expanding economy.

Water laws of the various States and all of the rights of any landowner, appropriator, or user of water from any source shall be fully honored in all respects as they may be affected by activities conducted under the Act.

Works of improvement shall be based on sound economic analysis. Costs shall be less than primary benefits. Benefits are to be assessed with care and are to be clearly creditable to the improvement. Secondary and intangible benefits should not be used for economic justification but may appropriately be used as argument for project justification or proposals for establishing equitable cost-sharing arrangements.

Works of improvement, including both land-treatment measures and structural measures, as may be needed for flood prevention or the conservation, development, utilization, and disposal of water will be planned for all lands within a watershed regardless of their ownership.

Flood prevention is defined as works of improvement installed for the purpose of reducing damage from floodwater, sediment, and erosion thus reducing losses of life, property, services, and other private and public values and which may also result in increased land productivity or enhancement from reduction of those flood hazards. To differentiate flood prevention from drainage on flat lands, the conveyance, control, and disposal of surface water caused by abnormally high direct precipitation or stream overflow is defined as flood prevention.

Drainage is defined as works of improvement installed for the purpose of lowering the water level in areas that under natural conditions are, or would be, swamps, marshes or lakes or in areas where normal precipitation, seepage, tidal action, or excess irrigation water, keeps soil too wet for sustained agricultural use.

The Administrator of the Soil Conservation Service will establish criteria for and assign on a national basis priorities for the furnishing of assistance to local organizations. In establishing such criteria and assigning such priorities he shall take cognizance of the work of other organizations, public and private, in the area of watershed protection and flood prevention.

It is the policy of the Department that there shall be the fullest possible cooperation with local, State and other Federal agencies which have responsibilities in the field of land and water management to the end that there may be a coordinated effort in this field.

Funds available under authority of the Act will be provided only for works of improvement producing direct measurable benefits to groups of landowners, to communities, and to the general public.

Federal assistance for land-treatment measures on land not in Federal ownership shall be limited to technical assistance required to complete the planning and application of such measures during the scheduled period for completion of the project supplemental to other program activities except that for the following measures, when their benefits are determined to be primarily but not exclusively for flood prevention and in excess of their costs, the installation costs may be paid for in part out of appropriations made under authority of the Act and, in accordance with Sec. 3 (4) of the Act, at rates not to exceed those for similar practices under existing national programs: (1) fire prevention and control, (2) critical area stabilization primarily by vegetative practices, (3) minor gully and channel stabilization measures, and (4) special purpose terraces and other on-farm measures used in lieu of downstream flood-prevention structures.

Operation and maintenance of all works of improvement installed on non-Federal land will be the responsibility of the local organization.

On Federal lands the land-treatment measures will be installed, operated and maintained by the agency administering such land. Funds available under the authority of the Act may be used to install, and to operate and maintain during the project installation period, land-treatment measures on Federal lands only to the extent necessary to complete the application of such needed measures provided for in approved work plans during the scheduled period for completion of the project.

The cost of installing, operating and maintaining other works of improvement on Federal land will be shared by the agency administering such land and the local organization in the same manner as if they were installed on non-Federal land in accordance with the criteria hereinafter stated.

After the project installation period, the operation and maintenance of works of improvement, including the cost of management, of Federal land shall be the responsibility of the Federal agency responsible for the management of such land using funds available under authorities other than the Act.

All appropriate agencies of the Department of Agriculture, and it is expected all State agencies, will make available to local organizations to the fullest practicable extent and commensurate with their regular responsibilities such technical assistance and information as may be necessary to development of work plans, installation of works of improvement, and application of land-treatment measures.

Prior to receiving Federal assistance in the installation of works of improvement on non-Federal land, the local organization will:

- (1) provide assurance that it can meet the financial obligations involved in the installation of works of improvement as shown in the work plan;
- (2) furnish documentary evidence that arrangements have been made to assure the adequate operation and maintenance of such works;
- (3) acquire or provide evidence that landowners or water users have acquired in accordance with any applicable State laws such water rights as are needed in the installation and operation of works of improvement;
- (4) provide assurance that structural works of improvement will be installed, operated, and maintained in accordance with any applicable State laws;
- (5) provide for informing landowners and others participating in the plan and its effectuation of their responsibilities for compliance with applicable State and Federal laws;
- (6) provide documentary evidence of acquisition of land, easements, and rights-of-way necessary to the installation of proposed works of improvement; and
- (7) submit a satisfactory plan of repayment for any loan or advancement made under the provisions of Section 8 of the Act.

Prior to providing Federal assistance in the installation of works of improvement, the Administrator of the Soil Conservation Service shall approve or disapprove those plans for works of improvement which are not required to be transmitted to the Congress through the President and shall recommend approval or disapproval of those plans which under terms of the Act are to be transmitted to the Congress.

The provisions of Sec. 211 of the Agricultural Act of 1956 (Public Law 54C, 84th Congress; 70 Stat. 188) shall apply to any land newly irrigated or drained as a part of a project carried out under authority of the Watershed Protection and Flood Prevention Act.

It is the policy of the Department that the local organization will assume that part of the installation cost of structural works of improvement allocated to the agricultural phases of the conservation, development, utilization, and disposal of water which is equal to the ratio of direct identifiable benefits to total benefits produced by such works of improvement. The local organization will not be required to assume any part of the construction cost or cost of engineering services for structural works of improvement allocated to flood prevention. The local organization will be required to assume all installation costs, including engineering services costs, for purposes other than flood prevention, and the agricultural phases of the conservation, development, utilization, and disposal of water. Where a single work of improvement is planned to serve more than one purpose, an allocation of costs to each of the purposes shall be made, and the local organization shall bear its share of the costs allocated to each purpose in accordance with the foregoing criteria.

If the costs allocated to the local organization for the agricultural phases of the conservation, development, utilization, and disposal of water on the basis of direct identifiable monetary benefits appear inequitable in consideration of intangible or other public non-measurable benefits, such benefits will be taken into account in reaching agreements on cost sharing, but in no event will the Federal share of the cost exceed the equivalent Federal assistance available for other similar project-type programs. Direct identifiable benefits are those benefits accruing to individuals or organizations that would normally be required to pay special assessments or taxes for such benefits.

In accordance with the stipulations and policies herein set forth, the Administrator of the Soil Conservation Service will establish procedures for receiving and approving applications for assistance; determine and define measures eligible for assistance under the Act; establish standards for work plan development, program justification and cost sharing; assign planning priorities on a national basis; inform and cooperate with other Federal agencies in providing authorized Federal assistance; cooperate with designated State agencies or Governors in carrying out their responsibilities; assist local organizations in planning and carrying out works of improvement; prescribe such regulations as may be required for operation and maintenance by local organizations; and take such other action as is necessary to carrying out the provisions of the Act except with respect to the provisions of Section 8.

5/1/57

The Administrator of the Farmers Home Administration shall be responsible for carrying out the authority to make loans or advancements as contained in Section 8 of the Act. However, no loans or advancements shall be made under the provisions of the Act until the Administrator of the Soil Conservation Service and the local organization have agreed on a plan for works of improvement and, if required, the plan has been approved by the appropriate committees of the Congress.

The Administrator of the Farmers Home Administration shall discharge his responsibilities with respect to the provisions of Section 8 of the Act:

1. Subject to the approval of the general credit policies for loans or advancements under the Act by the Director, Agricultural Credit Services.
2. In harmony with the policies contained in this statement.
3. Subject to working agreements entered into with the Administrator of the Soil Conservation Service covering the methods to be employed in coordinating the assigned responsibilities of the Soil Conservation Service and the Farmers Home Administration.

Approved: /s/ E. L. Peterson
Assistant Secretary

Date: September 17, 1956

5/1/57

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
WASHINGTON 25, D. C.

ADMINISTRATOR'S MEMORANDUM SCS-87

June 10, 1955

RE: Cooperation of Fish and Wildlife Service in Planning under the Watershed Protection and Flood Prevention Act.

Attached is a copy of the "Memorandum of Understanding Between Fish and Wildlife Service, Department of the Interior, and Soil Conservation Service, Department of Agriculture," relating to cooperative activities between the two agencies under the Watershed Protection and Flood Prevention Act. Additional copies of this memorandum of understanding will be provided to you shortly for inclusion in section 30 of the Interim Watershed Protection Handbook.

The following procedures will be carried out to implement this memorandum of understanding:

1. The State Conservationist will advise the responsible Fish and Wildlife Service office of the plans and dates for each future watershed application field examination. (The names and locations of the responsible Fish and Wildlife Service field offices were provided to you on May 3.) The Fish and Wildlife Service may send a representative to participate in certain field examinations if it considers that important fish and wildlife resources might be affected by a watershed program. Following the field examination representatives of the Fish and Wildlife Service will discuss their preliminary findings with the State Conservationist and may submit a report to the designated State agency.
2. As soon as a watershed application is approved by the Administrator for planning assistance, the State Conservationist and the responsible Fish and Wildlife Service representative will make arrangements for the participation by that Agency in making the reconnaissance study (item 4) at the proper time during the work plan survey.
3. The Fish and Wildlife Service will provide the State Conservationist with a report on its reconnaissance study and a recommendation on the need for a detailed study. In those watersheds where detailed studies are recommended, a general plan and detailed estimate of the cost of such a study will be included (see item 8 of memorandum of understanding).

5/1/57

4. The State Conservationist will forward to the Administrator all Fish and Wildlife Service recommendations for detailed studies along with his views on the need for the study.
5. The Administrator will approve or disapprove the recommendation for a detailed study. Additional funds will be allotted to the State office to cover reimbursement to the Fish and Wildlife Service for each approved detailed study.
6. The State Conservationist will advise the proper Fish and Wildlife Service representative in writing of the Administrator's action and include advice that reimbursement will be made for services rendered upon submission of Standard Form(s) 1081, Voucher and Schedule of Withdrawals and Credits. This action will complete the agreement for transfer of funds as set forth in item 8 of the memorandum of understanding.

/s/ D. A. Williams

Attachment

5/1/57

Memorandum of Understanding Between Fish and Wildlife Service,
Department of the Interior, and Soil Conservation Service,
Department of Agriculture

This memorandum is entered into for the purpose of encouraging the coordination and integration of fish and wildlife conservation with works of improvement carried out pursuant to provisions of the Watershed Protection and Flood Prevention Act of August 4, 1954 (Public Law 566, 83rd Congress, 2nd Session), and to that end will provide guidance to all personnel in the Fish and Wildlife Service and the Soil Conservation Service.

General Considerations

1. The Watershed Protection and Flood Prevention projects may have a significant effect on fish and wildlife resources in some watersheds. Therefore, it is agreed that the Fish and Wildlife Service and the State fish and game agencies may make such recommendations for fish and wildlife conservation as they deem practical during the planning stage of projects under Public Law 566.

2. Local organizations, as defined in Public Law 566, may desire to incorporate measures for enhancement of fish and wildlife in watershed work plans based upon recommendations of State and Federal agencies, but no part of the cost of such enhancement measures will be paid for from appropriations made under authority of Public Law 566.

3. Costs of measures for mitigation of any damages to fish and wildlife resources resulting from the proposed works of improvement under Public Law 566 will be considered by the Soil Conservation Service as proper costs of the projects and such measures as are determined to be appropriate by the Soil Conservation Service shall be incorporated in the watershed work plan.

Tangible benefits or losses to such resources shall be appropriately credited or charged to the projects and intangible benefits and losses may be cited.

Watershed work plans should represent the program of local people. The Soil Conservation Service will participate in carrying out only those elements of the project, however, that are in accordance with the provisions of Public Law 566 and that it considers to be in keeping with the policies of the Department of Agriculture.

Procedures

4. The Fish and Wildlife Service may make a reconnaissance study of proposed or approved watershed projects to determine (1) the probable effects of the project on fish and wildlife resources, and (2) whether detailed studies of the watershed area and project plans are needed properly to integrate measures for conservation of fish and wildlife into watershed

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work plans. These reconnaissance studies shall be financed from funds regularly appropriated to the Fish and Wildlife Service for River Basin Studies.

5. In the event detailed studies by the Fish and Wildlife Service of certain projects are recommended and both the need for and the estimated cost of making such studies have the concurrence of the Soil Conservation Service, the cost of such detailed studies will be financed by transfer of funds from the Soil Conservation Service.

6. Following the transfer of funds for these studies, the Fish and Wildlife Service shall proceed promptly to undertake them, in close consultation with the appropriate State fish and Game agencies, the local offices of the Soil Conservation Service, and the representatives of the local organization. The Fish and Wildlife Service will keep in mind at all times the objectives of the local organization in the development of a watershed project.

7. The recommendations developed by these studies will be given full consideration by the Soil Conservation Service and will be presented for the consideration of the local organization in developing the watershed work plan.

8. This memorandum of understanding will be implemented by periodic agreement for transfer of funds and arrangements for specific work.

/sgd/ John L. Farley
Director, Fish and Wildlife Service

Date May 24, 1955

/sgd/ Gladwin Young Acting
Administrator, Soil Conservation
Service

Date 5/12/55

MEMORANDUM OF AGREEMENT BETWEEN THE SOIL CONSERVATION
SERVICE AND THE AGRICULTURAL RESEARCH SERVICE
RELATING TO SERVICES TO BE FURNISHED BY
THE ARS UNDER THE WATERSHED PROTECTION APPROPRIATION ITEM

To assist in carrying out its responsibilities for work under the Watershed Protection Appropriation Item, the Soil Conservation Service desires to utilize specialized assistance available in the Agricultural Research Service and the two Services therefore mutually agree as follows:

I. Kinds of Work to be Undertaken:

A. Assistance in the Preparation of Departmental Policy Recommendations.

The Agricultural Research Service will provide technical assistance to the Soil Conservation Service, upon request, as provided for under Section II of this agreement, in the preparation of recommendations to the Department for the development of the Nation's land and water resources and assist it in the formulation and adaptation of principles, policies, criteria and procedural guides for administering the Watershed Protection and Flood Prevention Act.

B. Assistance in economic evaluation of plans for works of improvement.

When requested by the Soil Conservation Service, the Agricultural Research Service will work cooperatively with personnel of the Soil Conservation Service and cooperating State and local agencies in the furtherance of work plan development and the determination of the economic justification of proposed works of improvement as required by the Watershed Protection and Flood Prevention Act. The application of the general principles and criteria of program formulation and evaluation contained in statements of policy issued by the Department and by the Bureau of the Budget often present difficult problems under field conditions. Assistance by Agricultural Research Service Staff members will be provided in developing practical procedures for local application of the economic principles and criteria involved.

The Agricultural Research Service will assist in making determinations such as the following: (1) need for added products or services which would be provided by the works of improvement; (2) appraisal of watershed damages; (3) appraisal of expected benefits; (4) appraisal of economic costs of works of improvement and allocation to project purposes when necessary; and (5) development of scale of project in accordance with established criteria of economic feasibility.

C. Assistance in measuring the economic results of pilot watershed protection project.

In connection with the physical and economic evaluation of watershed protection projects, the Agricultural Research Service will, upon request of the Soil Conservation Service, assist in two types of evaluation studies: (1) detailed evaluation studies of pilot watershed protection projects selected for intensive evaluations; and (2) generalized benefit-cost estimates in the remaining pilot watershed protection projects.

Scope and Objective of Studies. The sample evaluation work plan issued April 20, 1954, by the Soil Conservation Service provides primarily for the standardization of objectives, presentation of information, and cooperative arrangements for watershed projects selected for intensive evaluation. The broad objective of project evaluation is to appraise the effects of a watershed protection program in both physical and economic terms. The evaluation is intended to determine the economic benefits realized from the watershed program.

Area of Studies. Studies will be made in all pilot watersheds selected for intensive evaluation. Studies in the other pilot watersheds will be undertaken as required to balance out the major types of evaluation problems for certain factors under measurement. The Agricultural Research Service will, upon request of the Soil Conservation Service, assist in the less intensive evaluations where special problems are involved.

General Procedure of Economic Investigation. The procedures for making various economic measurements and analysis will be worked out cooperatively in accordance with the annual work plan, taking into consideration policies, procedures, and techniques established for carrying out the program. The Agricultural Research Service will assist the Soil Conservation Service in the development of schedules, selection of samples and in the collection of data required for this evaluation. Determinations or measurements such as the following may be required:

1. Selection of those practices and measures for which full appraisal is desired.
2. Map and locate selected measures and practices; "A" measures by specific site.
3. For those measures and practices having off-site effects, determine the limits of their zone of influence.

Account will be taken of interrelations of measures and practices in the analyses of programs.

4. At appropriate intervals of time (varying according to the measure being appraised and frequency of damage) economic effects of the measures and practices will be observed and appraised. Arrangements will be made with selected farmers to maintain records of certain types of information. The appraisal will be based on changes in: (a) land use, yield and quality of product; (b) inundation damage; (c) damage from deposition; (d) damage from scour; (e) damage from gullying; and (f) production costs.
5. Special observations may be required for appraising damages such as (a) sedimentation of lakes, ponds, reservoirs, harbors, and other waterways, and (b) flood damages outside the watershed in cases where such losses may be reduced by the program being studied.
6. At appropriate intervals of time, appraise the performance of local sponsoring organizations, record the cash and other contributions they make, and analyze the factors affecting their ability to carry out their responsibilities in watershed programs.
7. Allocation of off-site effects to the installed measures or practices or combinations thereof.

D. Assistance on special economic evaluations problems.

Work of a specialized and detailed nature will be undertaken when it is mutually decided that such work will contribute to the successful establishment of the program.

The nature and scope of such studies will be agreed upon between the Soil Conservation Service and Agricultural Research Service. Such studies as the following may be included: (a) development of economic techniques and methods for use in work plan preparation, (b) special problems encountered in particular areas or associated with particular measures, (c) problems associated with obtaining local participation and cooperation, (d) analysis of experience in dealing with problems encountered by local organizations in meeting their responsibilities in program operations, and (e) assembly of basic economic data essential for project formulation and justification.

E. Assistance in review and analysis of the economic aspects of Resource development proposals.

In accordance with procedures of the Inter-Agency Committee on Water Resources, the Department reviews reports on resource development proposals prepared by other Federal agencies and participates in developing Federal policy relating to the preparation of such proposals. Under this arrangement the Agricultural Research Service, at the request of the Soil Conservation Service, reviews and analyzes the economic aspects of proposed land and water resource projects and programs of other Federal agencies. It also participates with other Federal agencies in developing uniform national evaluation criteria.

The Agricultural Research Service will continue to provide such assistance as is requested in the field of economics relating to Inter-Agency affairs. The ultimate aim of this cooperative effort will be to unify and improve procedures and evaluation practices by the several Federal agencies interested in land and water resource conservation and development programs.

II. Procedure for selection of specific work assignments:

Within the limits of this agreement and the amount of funds transferred, a general plan will be prepared by the Soil Conservation Service and the Agricultural Research Service covering the work to be undertaken each year. This annual plan will include a list of the principal problems on which assistance is needed, procedures to be followed, cooperation to be developed with other Federal, State and local agencies, and a schedule of reports to be prepared. The work plan will indicate the Agricultural Research Service personnel available for assistance to the Soil Conservation Service as indicated under Part I, and the approximate time that **can** be allocated to such work by each staff member so assigned. Mutually acceptable adjustments in this annual working schedule will be made as necessary.

III. Agricultural Research Service cooperation with Federal, State and local agencies:

In carrying out field investigational work covered by this agreement, the Agricultural Research Service will cooperate with Federal, State and local agencies, including State colleges and regional groups, in accordance with the provisions of the annual work plan.

IV. Reports will be issued as mutually agreed upon and after approval by all cooperating agencies, through established channels of the Soil Conservation Service, Agricultural Research Service, or cooperating agencies.

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V. Transfer of funds:

It is agreed that Soil Conservation Service will annually transfer funds to the Agricultural Research Service for credit to a working fund account to be established from funds included under the Watershed Protection appropriation item for such plan of work as may be mutually agreed to under the provisions of Section II. It is mutually agreed that \$30,000 will be transferred to the Agricultural Research Service in the fiscal year 1955 and \$100,000 in the fiscal year 1956, and additional amounts for subsequent fiscal years, all annual amounts to be subject to mutual agreement on a plan of work as provided for in Section II and to the availability of funds therefor.

VI. Progress reports:

The Agricultural Research Service will make an annual report to the Soil Conservation Service on accomplishments under the work plan provided for in Section II, and will include a report on expenditures for each of the principal types of work outlined therein. Other reports will be made upon request.

VII. This Memorandum of Agreement shall become effective as of date of approval and shall continue in effect until modified by mutual agreement or until terminated by either party by giving not less than 60 days' notice in writing to the other party.

1/24/55

Date

/s/ D. A. Williams

D. A. Williams, Administrator
Soil Conservation Service

1/27/55

Date

/s/ B. T. Shaw

B. T. Shaw, Administrator
Agricultural Research Service

Approved:

3/10/55

Date

/s/ E. L. Peterson

Assistant Secretary

5/1/57

U. S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

POLICY AND PROCEDURE MEMORANDUM 50-4.2

Date of Issuance: January 11, 1956

PLANNING

SUBJECT: Highway-Water Resources Developments (Road Relocations
Resulting From Water Projects)

Supersedes: Memorandum dated August 11, 1950 and January 9, 1952,
(Temporary Topic 50-D)

1. Purpose

The purpose of this memorandum is to prescribe policies and procedures of the Bureau of Public Roads on matters relating to the relocation, which term includes reconstruction, adjustments and alterations, of highways on any Federal-aid or Forest highway system made necessary by the construction of reservoirs or other water resources projects.

2. Policy

a. It is the policy of Public Roads to cooperate with Federal and State agencies in the early determination of those segments of Federal-aid or Forest highway routes that may need to be relocated for accommodation of water resources projects, in estimating the costs of such relocations, and in equitably allocating such costs between the water and highway interests. Upon the request of another Federal agency or a State highway department, Public Roads will render similar assistance with respect to roads not on these two systems. The furnishing of such assistance, if involving substantial services, may be on a reimbursable basis.

b. The continuing objective of this policy is to coordinate highway improvements with proposed water projects to avoid unnecessary expenditure of public funds.

c. The cost of road relocations to be charged to the water project should be the difference between the cost of constructing the highway to modern highway design standards on the new location or elevation resulting from the water project and the cost of reconstructing the existing highway to the same modern standards without regard to the water project. Modern highway design standards should be based on a projection of traffic conditions for not more than twenty years in the future. Differences in highway maintenance costs resulting from the relocation should also be considered in the foregoing computations. Public Roads is not concerned

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with the allocation of costs between water project purposes, such as flood control, power, irrigation and navigation.

d. Federal-aid or Forest highway funds may participate in the cost of relocating Federal-aid or Forest highways provided the participation does not exceed what would have been expended had the highway been re-constructed without regard to the water project.

e. Federal-aid or Forest highway funds will not be available to defray any part of the cost of relocating highways that local interests are required or agree to assume as a condition to the undertaking of the water project.

3. Procedures

a. As a means of strengthening interagency cooperation, each Public Roads district engineer should, as occasions arise, discuss the problems of highway relocation required by water projects with the field representatives of the interested Federal agencies. He should make certain that he is on the mailing list of the appropriate Federal agency to receive all notices of hearings and studies concerning such projects. After receipt of each notice and discussion of the matter with the State highway department, the district engineer should apprise the Federal water project agency as to the interest of Public Roads therein.

b. When it appears that a proposed water project might affect existing or proposed highway facilities, the water project agency should be requested to furnish a statement of the probable location of its project, the elevation of the pool, any navigational clearances to be required in bridges, any agreements by local interests to assume costs of highway relocations, and related details. On the basis of such information, details concerning the needed highway relocations, the estimated cost thereof and the increment of cost chargeable to the water project should be submitted to the water project agency. The submission should include a request that the data be used in benefit-cost and cost allocation computations of the water project and that the information be clearly shown in the agency's report to the Congress.

4. Public Roads Presentations of Information

a. The presentation of factual information by Public Roads, at public hearings and otherwise, concerning road relocations, cost allocations, and related details, should be prefaced by a statement of Public Roads' views covering the following points:

(1) Although the Bureau of Public Roads under existing law has no responsibility for making recommendations to the Congress concerning proposed water projects, it has within its sphere of activity, in connection with the improvement of Federal-aid and Forest highways, a coordinate duty to assist in obtaining needed factual information on highway relocation costs due to such projects, in order that such data may be taken into account in arriving at sound decisions.

(2) The relocation cost estimates and other data are based upon a probable dam site, pool elevation, and related information furnished by the water project agency. Any change in the site or in the elevation of the pool may materially affect the estimates. The information concerning highway design features and costs is based upon the best information available as to projected future traffic conditions. If construction of the water project should be deferred for five years or more after the estimates are furnished, the highway interests should have an opportunity to review the estimates, with a view toward making any appropriate revisions in the information being furnished before construction of the water project is started. Any highway improvement that may be made after a water project is studied but before its construction is started may materially increase the share of the relocation cost to be financed by the water project.

(3) The Bureau of Public Roads will cooperate in every way possible toward deferring improvement of any segment of a Federal-aid or Forest highway route expected to be inundated by any water project being advanced to construction. Needed highway improvements cannot be unduly deferred, however, in cases where construction of a water project is not imminent.

(4) In appropriate cases, it should be pointed out that Federal-aid or Forest highway funds may not be used to relieve local interests of obligations they assume as a condition to the undertaking of a water project. The decision to deny Federal-aid or Forest highway funds in such cases does not involve the discretion of the Bureau of Public Roads. It is based upon a fundamental relationship between coordinate governmental programs. Under that relationship, in the absence of a clear expression by the Congress authorizing otherwise, funds appropriated by the Congress for highway purposes may not be used to relieve local interests of obligations they assume as a condition to the undertaking of a water project for which the Congress appropriates funds.

5. Required Reports

Except for information concerning cost allocation and related details such as accompany program documents, and special information as may be requested in individual cases, no reporting to the Washington office is required under this memorandum.

/s/ C. D. Curtiss
Commissioner of Public
Roads

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